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## THE DOCTOR TAKES A HAND IN VETERANS' RELIEF

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A GREAT deal of interesting and significant data and opinion came to light in the course of recent discussions of the medical and hospitalization program and policy of the Federal government at the Philadelphia meeting of the American Medical Association. Several speakers pointed out to the House of Delegates of that organization that the present program, unless modified considerably, is likely to lead eventually to a government hospital in each congressional district and to unlimited expenditures, increasing from year to year as the millions of former service men need medical service or hospitalization for disabilities incurred during civilian life.

It was pointed out at this meeting that all this expenditure is justifiable only if it is for the best interests of the veteran. The preponderance of opinion was that for the veterans themselves it held no assurance of better service than they might receive privately from civilian physicians and in civilian hospitals, while, on the other hand, there was the very real danger of making more and more of them into "institutionalized cases."

### DISABILITY INSURANCE A BETTER METHOD

A better method of handling the situation, in view of the fact that the government has already embarked upon the policy of medical and hospital service for all veterans, regardless of the origins of their disabilities, was outlined in a resolution submitted to the House of Delegates by Dr. H. H. Shoulders of Tennessee, prominent in the American legion of that state.

This resolution does not seem to be contrary in any way to the avowed policy of the American Medical Association in regard to the extension of free service, inasmuch as it must be assumed that the veterans have already rendered

to the government a service commensurate with any such disability policy.

The resolution submitted by Dr. Shoulders reads as follows:

"WHEREAS, The federal government has inaugurated the policy of rendering medical and hospital benefits to veterans of the World War with non-service connected disabilities; and

"WHEREAS, This policy was inaugurated over the opposition of the American Medical Association; and

"WHEREAS, The policy now in force if carried to its logical conclusions, involves the construction, the staffing, and the maintenance of a sufficient number of hospitals to accommodate the hospital needs of all the veterans of the World War; and

"WHEREAS, The present policy is of unequal benefit to veterans by reason of the fact that many disabled veterans cannot (for one reason or another) avail themselves of the benefit, therefore be it

"Resolved, That the House of Delegates of the American Medical Association petition the Congress of the United States and the American Legion to abandon the policy of rendering hospital and medical benefits to veterans of the World War with non-service connected disability, and substitute therefor a plan of disability insurance benefits with the following provisions:

"First, the creation of a Bureau of Disability insurance in the Veterans' Bureaus as now constituted.

"Second, the issuance of a disability insurance policy to each veteran with a disability benefit clause, as follows:

"(a) The payment of a weekly cash benefit during a period of total disability, and

"(b) The payment of liberal hospital benefit sufficient to cover the hospital expenses of a veteran during a period of hospitalization for any disability. Such benefits to be paid to a veteran on satisfactory proof of total disability, and

"(c) Such other provisions as are necessary for the proper administration of the act.

"Be it further

"Resolved, That the proper officers of this association be instructed to approach the officers of the American Legion with the view to securing the adoption of the policy above set out as a part of the legislative program of the American Legion, and be it further

"Resolved, That each state medical association be requested to form a committee whose duty it will be to approach the state and local Legion posts throughout the country with a view to securing the adoption of this program by them."

This resolution was adopted by the House of Delegates following considerable discussion.

The American Medical Association is opposed to the policy of paternalism as applied to the care of veterans, but those of us who supported the Shoulders resolution do not believe that the insurance project as advocated by Shoulders is paternalism. It is a return by the government for a service rendered. The beneficiary is a free agent in expending this fund. Certainly this is not paternalism in the sense it might be if the government were to insist, also, on designating where the veteran should receive his medical service and from whom.

In view of the fact, therefore, that the present system establishes an out-and-out paternalism for a constantly growing class, that it is likely to undermine the morale of its beneficiaries and at the same time to cost the government untold millions for years to come, the Shoulders proposal seemed to a decided majority of the American Medical Association delegates very much the lesser of two evils.

Since the enactment of section 202(10) World War Veterans' Act which authorized treatment of all veterans in government hospitals without regard to their disabilities there has been an increase of 10,253 cases of this class within the last five years, according to an official veterans bureau statement, or approximately 2,000 per annum.

Col. George E. Ijams, director of the Veterans' Bureau, has officially remarked upon the

unusual increase in medical activities of the bureau. During the first eleven months of the last fiscal year over 35,000 more out-patient treatments, 16,000 more hospital admissions and 750,000 more physical examinations had been recorded than during the previous year, he says. He also points out that five new veterans' hospitals have been completed and additional contract hospitals have been made available.

#### SIX THOUSAND NEW BEDS IN FIVE YEARS, VETERANS' BUREAU OBJECTIVE

According to the official Veterans' Bureau estimate, 3,000 additional beds will be necessary in 1933, and 6,000 in 1936.

At the same time, civilian hospitals all over the country are facing serious deficits, largely because there are empty beds in all of them, amounting to approximately 40 per cent of the total capacity.

If these beds could be used by veterans, and paid for out of some such insurance policy as the Shoulders resolution suggests, the supporters of the resolution believe that present hospital deficits could be reduced, the government saved a huge bill for additional hospitals and hospital administration and the cost of hospital care to the entire population lowered.

On the other hand, if the present policy of the federal government is pursued to its logical end, such institutions for the care of all organic disease may very well be established as are foreshadowed in the cancer unit of the Edward Hines Jr. Veterans' Hospital of Hines, Illinois. Note as evidence this interesting statement issued recently by the Hines hospital.

"It has been estimated," says the statement, "that among the veterans of the World War about 300,000 will die eventually of cancer, and that, in addition about 100,000 under favorable circumstances will be cured, which means that in all probability about 400,000 veterans at one time or another will suffer from cancer. Dr. Hugh Scott, manager of the Edward Hines Jr. Hospital, estimates that probably 250,000 of these men will apply for treatment to one or another of the diagnostic clinics of hospitals. Thus the question is very important and a start has already been made towards its solution.

"In the central states, from Canada to the Gulf of Mexico and from the Allegheny mountains to the Sierras, every veteran who is suspected



of having cancer will be sent to the Cancer Center which Dr. Scott has established at the Edward Hines hospital just out of Chicago."

Further evidence, not only of the magnitude of the present government program, but also of the definite purpose of the government to rush to an early completion the gigantic veterans' hospital building program authorized by the last Congress is found in the following news item, carrying a Washington date line and dated July 16, distributed by a national press agency.

"Speeding up its work to provide employment during the depression, the veterans will complete a \$20,500,000 hospital program a year and a half ahead of schedule, it was announced today.

"Under the policy of Congress of providing hospital facilities for non-service connected cases, a policy which has brought complaint from organizations of American physicians, it is expected that other hospital programs will be authorized in the near future.

"Congress has appropriated \$97,450,000 for veterans' hospitals since 1919, with the load of patients increasing as the average age of World War veterans rises."

As indicated in the last paragraph, there will be a proportionate increase in the number of disabilities originating in civilian pursuits as the average age of the veterans rises, and it is this latter type of cases that would require the contemplated increase in building programs.

It is obvious that the future policy of the government in dealing with war veterans' relief is of the utmost importance to everybody. But it is especially important and serious to the members of the medical profession in view of the criticism that has been directed toward the profession in recent articles appearing in a number of service men's magazines.

This criticism is prompted by misunderstanding of the physicians' attitude and a misconception of its aims and purposes relating to the veterans' program.

"I believe," declared General Hines in discussing veterans' legislation pending before the Sen-

ate finance committee of the last Congress, "that we have reached a point in connection with veterans' relief when we must give serious consideration to where we are going. It would be a pity, in my judgment, to have public opinion turned against relief measures for disabled veterans because of any unwise legislation for the able-bodied."

This, so far as it goes, is also the attitude of the medical profession.

#### THE THREAT TO EX-SOLDIER MORALE

But the physicians look farther than that. They see clearly the debilitating effect of a too beneficent paternalism on men who are otherwise quite fit to take a responsible, adult place in the world. They see these men taken from their homes, moved long distances for protracted stays in government hospitals, separated from their families and family responsibilities and gradually becoming the easy-going wards of the Veterans' Bureau.

At the same time they see equally well equipped and staffed civilian hospitals running at serious losses because of their thousands of empty beds—beds that could be occupied by these same men in their home towns, looked after by their family doctors. These empty beds are inevitably boosting the price of hospital care to the entire civilian population while the government continues to build hospitals and more hospitals to cope with its ever growing waiting lists of veterans.

From the very beginning the medical profession has taken an active interest in the veterans' relief program of the government. The seriousness of the question, the medical and hospital problems involved, naturally enlist the physicians' attention. That the tremendous stakes in government funds and in ex-soldier morale involved in the pursuance of the present scheme call for leadership in some new scheme of relief is the opinion not only of the physician but of many other conscientious, thoughtful people.

It may be that the Shoulders resolution will prove to be the answer to the problem.

## THE SATURATION POINT\*

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IN the preparation of a paper, which had to do largely with the evolution of medical school teaching and its influence on modern medical practice, certain phases of economic influence bearing on the future practice of medicine came to light. Considering these to be matters of the utmost importance to the profession of the state, I have assembled a few pertinent facts which I am sure will point out the necessity for a carefully planned study of present conditions in the practice of medicine and show if possible how we may safeguard the future economic independence of the physicians of this state.

The practice of medicine, as a means of livelihood, is in many ways different from most other methods of earning a living. In a sense, the licensed physicians are what may be called a legislative monopoly. Collectively we are a great industry performing a definite task for which the people of the United States pay to us a certain aggregate sum of money yearly. The total sum has a definite limitation, which is probably basically fixed by the number of people in the country. This total medical income may be augmented by an increase in population, by a general increase in the prosperity of the country, possibly by new medical procedures, creating an efficiency in healing which would increase the demand for medical services, and further, by some plan that would assure physicians reasonable compensation for caring for those now receiving medical charity.

On the other hand, there are many influences at work which are materially deducting from the amount of medical service physicians are called upon to perform. For example,—many of the diseases which a few years ago occupied a large part of the activity of many physicians have been practically eliminated, and in the natural course of events, there will be other conditions which now form a lucrative part of medical industry which will also be eliminated. Furthermore, the education of people in health matters will eventually have a tremendous influence on cutting down the instance of disease. Also, the

medically enlightened public of the future will need much less medical consultation than in the past. So, it would seem that the influences that work today are those which will curtail rather than enhance the earnings of the medical profession in the future.

Thus, a certain fixed sum of money, variously estimated at from 450 to 600 million dollars represents the combined annual earnings of the physicians of the United States. How this sum shall be divided so as to give each individual physician an income somewhat commensurate with his years of preparation, his capital investment, and long hours of daily industry and responsibility, is the fundamental problem which confronts the practicing physicians individually and collectively of the United States today.

Obviously, if we take the medium sum of 500 millions of dollars annually, it would allow a \$10,000 income for 50,000 physicians. However, it is estimated that in this country there are at the present time two and a half times that many men actually practicing medicine for a livelihood, which raises up the question of how many physicians have we now in this country, and how many do we need.

We have in this country today more physicians in comparison with population than any other country in the world. Statistics show that in the United States there is one physician for every 720 people. Austria comes next with 1—870; Switzerland, 1—1,250; Italy, 1—1,400; Denmark, 1—1,430; England and Wales, 1—1,490; Germany, 1—1,560; France, 1—1,690; Belgium, 1—1,700; the Netherlands, 1—1,820; Sweden, 1—2,860; Mexico, 1—3,100; Brazil, 1—3,000; Persia, 1—25,000.

We had in the United States in 1930, 168,201 physicians—125,000 of whom were in active practice, and 98,307 of whom were members of the American Medical Association. It is of some interest to note that only 62 per cent were members of our National Association, and that 73 per cent of all physicians in Minnesota were members of the State Association; while Hennepin County Medical Society has 62 per cent,

\*Address before the House of Delegates at the annual meeting of the Minnesota State Medical Association, Minneapolis, May 4, 1931.

Ramsey 67 per cent, and St. Louis 75 per cent. It is of some importance to the organized medical profession to know just who compose the 68,000 physicians who are outside of our medical organizations.

There are at the present time undoubtedly a great many more physicians in this country than are necessary to adequately serve the population, and in the past few years there has been a marked increase in the number of physicians graduating from medical schools.

TABLE I

## MEDICAL SCHOOLS AND STUDENTS

Year	United States		Minnesota	
	Schools	Graduates	Enrollment	Graduates
1900	160	5214	368	53
1905	160	5606	242	78
1910	131	4440	177	31
1915	96	3536	183	36
1920	85	3047	340	55
1925	80	3974	583	105
1930	76	4565	740	133
Now in Medical Schools—21,597			700-1,000 yearly increase	
Entered 1929-30—6,457			Applications—31,749	

It will be noted (Table I) that while the medical schools have steadily decreased in number since 1905, there has been a steady increase in graduates in the past ten years until, in 1929, seventy-six medical schools graduated 4,565 students. There are now in medical schools 21,597 students, more than at any other time in the history of the country, with an annual increase in enrollment of from 700 to 1,000. However, a most significant and disturbing fact is that in the 1929-30 year there were 31,749 persons properly prepared and qualified making application for entrance to medical schools, of which 6,457 were admitted, and the rest refused only because of lack of facilities for educating them. We may very well wonder what will soon become of the practice of medicine as a means of livelihood if medical schools are encouraged or permitted to increase their capacity so as to accommodate all the applicants who would like to enter the profession.

Taking into consideration the number of physicians who are retiring and dying each year, there will have to be an approximate increase in the United States population of at least three million people per year in order that the ultimate 6,500 yearly medical graduates of the United States will find a place in the medical field without raising our present ratio. As a matter of

record, the increase in the population in the past ten years has been less than 1,700,000 per year. So figuring conservatively on the population basis, there will be twice as many physicians graduating as the normal population increase would support.

Bringing this problem to Minnesota, last year there were 130 graduates, and there were about forty deaths of physicians in Minnesota. Generally speaking, Minnesota will have to absorb the yearly contribution of her own medical school, and when we consider that there will be almost immediately at least 6,000 yearly graduates, and there are only 48 states, we will probably have to absorb at least 100 physicians per year, which on a reasonable basis of 1,000 population to the physician, would need a yearly increase in population in Minnesota of 100,000; while, as a matter of record, the population of Minnesota has only increased 176,000 in ten years.

TABLE II

## UNIVERSITY OF MINNESOTA ENROLLMENT

Year	General Enrollment	Population Ratio	Law	Engineering	Pharmacy	Medicine	Dentistry
1900	2372	738	498	209	0	368	28
1905	2781	712	481	399	67	242	121
1910	3399	610	447	407	82	177	195
1915	3565	597	177	475	101	222	266
1920	7551	316	267	1213	117	385	400
1925	9858	251	285	1140	178	583	390
1930	12439	210	283	1601	152	740	272
University Increase, 425%				Population Increase, 46%			

This situation is probably to a large extent true in most other departments of professional education. The figures (Table II) show that in 1900 the University of Minnesota had one student to every 738 residents, while today there is one student to every 210 residents. The marked increase in the student body in the medical school is only equalled by that of the Engineering Department. The University student body, as a whole, has increased 425 per cent since 1900; while the population of the state has increased only 46 per cent. This situation in Minnesota is true also of the educational conditions throughout the country. There are today more people acquiring business, academic and professional education than the demands of the country can possibly afford to employ and unless some means





propose to go into that at this time except to say that I am not one of those who believe that men with this background will not make excellent clinical teachers provided their research activities do not predominate in the school to

data are not accurate enough to warrant drawing any conclusions, although it is very apparent that there is a wide difference in the ratio of specialists to population in different cities. However, the data on the ratio of physicians as a

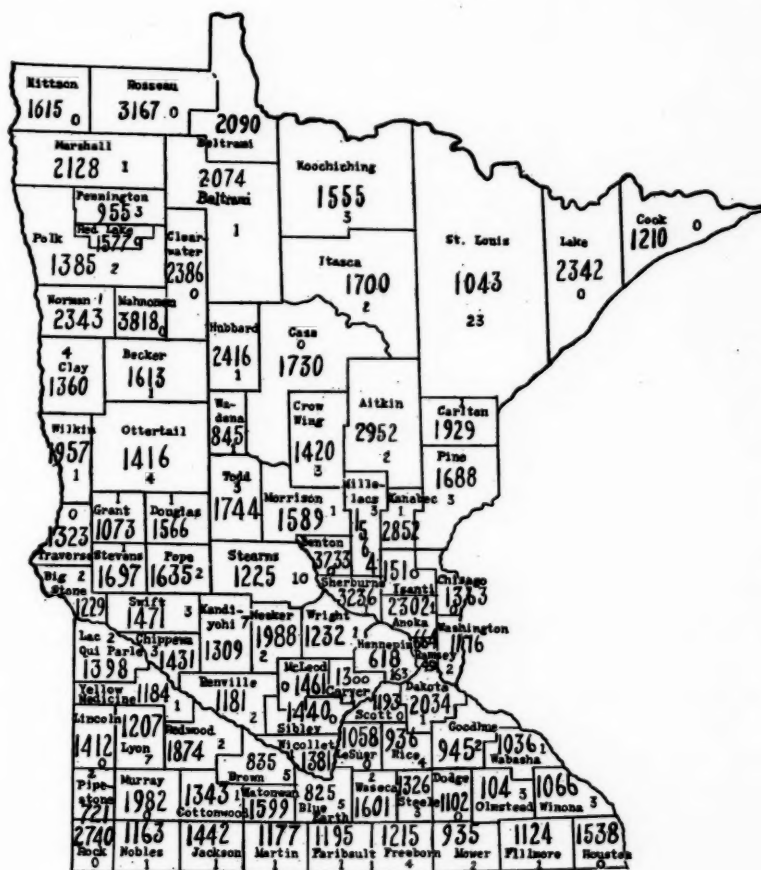


Fig. 2.

the detriment of students and teaching facilities. At any rate, this situation has taken away from the practicing profession any great or commanding voice in the control of the size of these schools or of the number graduated except as we may have influence on legislative appropriations.

The second fact of interest which appeared in the study was the marked irregularity in the distribution of physicians as based upon population. An attempt was made to study the distribution of specialists in different cities, but the

whole to population by states, by counties and cities, are available and show a most interesting variation.

An analysis of this condition will be well worth undertaking as it may lead to a better distribution in the future.

We have prepared a map (Figure 1) of the United States and the figures inserted show the ratio of physician to population. One is immediately impressed with the wide variation. For example, California has three times as many physicians per population as has South Carolina.

Why should Delaware have a ratio of 935 while adjoining Maryland has only 668? And why should New York have a ratio of two hundred less than any of the surrounding states? Why are there so few physicians in South Carolina and so many in Tennessee, and so many more in Missouri? Why have Nevada and Colorado only 600 people to each physician while Idaho has 1,389, Kansas 829, and Oklahoma 996? Why have Minnesota and Michigan only 882 and 863 respectively while Wisconsin has 989 and Iowa only 770?

We might reason that because Minnesota has two large population centers, St. Paul and Minneapolis, and Michigan a large population center at Detroit, that this would explain why we have a larger number of physicians than Wisconsin, which has no large population center. But this will not explain why Iowa, with no great population center, has still more physicians per population than any of these states.

The inequality of the distribution is even more striking when one comes to study the ratio of physicians to population by counties. For example, in Minnesota (Figure 2), the number of people to each physician ranges all the way from 3,818 in Mahnomon County, down to 618 in Henneipn County, not considering Olmsted, the home of the Mayo Clinic, where the ratio is only 1 to 104. It is probable that the use of county lines is not a very sound method of judging distribution. It is quite possible that doctors are concentrated in certain large towns or rural cities, but practice more or less in adjoining counties. However, this is not the entire explanation.

For instance, Anoka County, just to the north of Hennepin County, has a ratio of 1 to 2,302; and Wright County, just to the west, has only 1 to 1,232; and Meeker, still a little further away from Hennepin County, has 1 to 1,988. In other words, many of the counties in the best rural districts, some of which are very well populated, have a great many more people per physician than some of the poorest rural districts.

Likewise in the counties surrounding Olmsted County, with its great medical center, there are on the average more physicians for the population than in any other district in the state; while in the counties around Hennepin and Ramsey there are many less physicians than in many other parts of the state. Mankato, in Blue

Earth County, has one of the lowest ratios of any city I know, but there is also a comparative concentration in counties adjoining. This state distribution will require a certain amount of explanation and analysis before conclusions can be drawn.

It is interesting to note the concentration of non-medical healers in the large cities and the rather even distribution throughout the rest of the state. The small letters represent the number of chiropractors in each county. They seem to bear no definite relation to the number of physicians in the various communities. Minneapolis is blessed with 163 chiropractors while St. Paul, with more than half the population, has only forty-nine.

A study of some forty-five cities with medical schools and forty-five cities of as nearly as possible equal population without medical schools, disclosed that the average ratio in medical school centers of population to physicians was about 100 less than in nonmedical school cities. However, there is a great variation in cities containing medical schools which is not entirely dependent upon schools or upon population.

For instance, in Washington, D. C., with a half million population, the ratio is 1 to 282; in Boston with three-quarters of a million people, the ratio is 1 to 332; St. Louis, with three-quarters of a million population, has a ratio of 1 to 426; Chicago, with three million, has a ratio of 1 to 511; Philadelphia, with two million, has a ratio of 1 to 541, and Cleveland, with one million, has a ratio of 1 to 645. So while the tendency is for the medical student to settle in the community where he has acquired his education, there are other factors involved in the distribution.

A further study was made of forty-five cities, fifteen with a population of over 300,000, fifteen between 100,000 and 300,000, and fifteen from 30,000 to 100,000. The selection presented on this chart (Table III) has a wide geographical distribution, and while the total number of cities actually canvassed were great in number, those presented are typical examples of the whole.

Of the large cities, we again have Boston with a ratio of 1 to 332; Kansas City with 1 to 391; Indianapolis, a city of almost identical size, with 1 to 485; Baltimore, more than twice as large, with 1 to 520; Minneapolis with 1 to 545; Milwaukee, with a hundred thousand more inhabi-

TABLE III  
RATIO OF POPULATION TO PHYSICIANS IN 45 CITIES

Population 300,000 and over		Population 100,000 to 300,000		Population 30,000 to 100,000	
Washington, D. C.	282	Nashville	333	Oklahoma City	279
Boston	332	Denver	337	Lexington	302
San Francisco	358	Portland, Ore.	424	Lincoln, Neb.	379
Kansas City	391	New Haven	456	St. Joseph	408
St. Louis	426	Omaha	459	Columbia	418
New York City*	450	Richmond, Va.	461	Augusta, Ga.	420
Indianapolis	485	Hartford, Conn.	478	Fort Smith	452
Chicago*	511	Oakland, Calif.	485	Macon, Ga.	594
Baltimore	520	Salt Lake City	552	Wichita	616
Minneapolis	538	Fort Wayne	608	Kalamazoo	634
Philadelphia*	541	Akron, Ohio	685	Lancaster, Pa.	607
New Orleans	551	Tulsa, Okla.	720	Charleston	683
Seattle	595	Norfolk, Va.	742	Galveston	730
Milwaukee	643	El Paso, Texas	775	Ogden, Utah	751
Cleveland*	645	Duluth	834	Oshkosh, Wis.	772

\*Over 1,000,000 population

tants, having 1 to 643; Cleveland, more than twice as large, with 1 to 645.

Coming to the second group (100,000 to 300,000), the range of the ratio is not strikingly different except that it tends to be considerably higher in many of these cities. Taking El Paso, Texas, for instance, with a population of about 117,000, with a ratio of 1 to 775. We find about the same range in cities of from 30,000 to 100,000—Oklahoma City with 1 to 279; Oshkosh, Wisconsin, with 1 to 772. Why Nashville, Oklahoma City, Denver, Lexington and Lincoln, Nebraska, should have such a low ratio, and why Tulsa, Charleston, Norfolk and Galveston, should have such a high ratio, are questions presenting problems which are worthy of some investigation.

A further study (Table IV) of the situation in Minnesota in particular, with reference to some of the larger and smaller cities, and a comparative study of the ratio between city and rural

physicians in Minnesota, gives one much interesting information. I was considerably surprised to find that of all the larger cities in the country, Minneapolis, while far from being the best, is just as far from being the worst. In spite of the steady influx of physicians to Minneapolis, the ratio of physicians to population has not materially changed in the past twenty years.

You will note a ratio of 1 to 538 in 1912, and a ratio of 1 to 548 in 1929. St. Paul has not been quite so fortunate. In 1912 their ratio of 1 to 709 was much greater than that of Minneapolis. It is now down to 1 to 636, but still almost a hundred more people per physician than Minneapolis. Duluth with the exceedingly high ratio of 1 to 808 in 1912 has come down to 1 to 725 at the present time. There are almost 200 more people to each physician in Duluth than in Minneapolis. Just why this situation should prevail is not entirely clear. Here again is a point for study which should bring some information of material value.

TABLE IV  
RATIO OF PHYSICIANS TO POPULATION IN  
1912 AND 1929

	Population	1912 Physicians	Ratio	Population	1929 Physicians	Ratio
Minneapolis	301,408	560	538	464,356	847	548
St. Paul	214,744	303	709	271,606	442	636
Duluth	78,446	97	808	101,463	140	725
Rochester	7,844	55	143	20,621	397	52
St. Cloud	10,600	13	815	21,000	33	636
Mankato	10,365	28	370	14,038	36	390
Winona	18,583	21	885	20,850	22	948
Four Cities	602,462	1,015	593	858,046	1,826	475
Rural	1,473,246	1,247	1,181	1,705,907	1,258	1,355
Total	2,075,708	2,267	911	2,563,953	3,084	882

A cursory study of three of our largest cities outside of the four shown above, shows a wide difference of population to physician. It will be noted that in 1912 St. Cloud had a ratio of 1 to 815. In spite of a large increase in population in the past seventeen years, the ratio is now down to that of St. Paul, and much lower than that of Duluth. Mankato, for some reason unknown to me, had in 1912 a ratio of 1 to 370, and with a moderate increase in population of 4,000 in seventeen years, has still maintained about the same ratio which is now 1 to 390, one of the lowest, if not the lowest in the state for a city of anywhere near its population. On the other hand, Winona, a city situated in the very best of Minnesota's farming country, and with an old wealthy population, had a ratio in 1912 of 1 to 885, and with a modest increase of 2,000 there has been only an increase of one physician, and the Winona doctor is now in the rather unique position of being only one physician to 948 people.

A composite study of the four principal medical centers shows that in Duluth, St. Paul, Minneapolis, and Rochester in 1912, there were 1,015 physicians and a ratio of 1 to 593, while in all the rest of Minnesota there were 1,247 physicians with a ratio of 1 to 1,181. Now in 1929, the population of the cities has increased 256,000, while the number of physicians has increased 810, reducing the ratio for these four centers to 1 to 475. The influence of Rochester here is obvious. But what is more interesting and significant is that the rural population increased practically the same amount while the physicians have only increased a few more than one hundred, and the ratio of rural physicians to population has risen to 1 to 1,355. In other words, of approximately 800 physicians who have come into Minnesota since 1912, 700 have settled in the cities and only 100 outside of these cities, while the population increase in rural Minnesota is almost as large as the population increase in the four cities. This is of especial interest when we consider that the amount of work referred from country districts to the Twin Cities is estimated to have dropped from 33 to 50 per cent in the last ten years.

The income of physicians in the cities is also greatly influenced by the large number of non-medical healers and by the many free clinics. It is estimated that in a city the size of Minneapolis,

25 per cent of all medical service is rendered by the physician without pay.

We have so far discussed the number of physicians in relation to the population and the distribution of physicians. These things are of importance mostly as to their direct bearing on the physicians' income.

Any attempt to study the earnings of physicians is fraught with much difficulty. No single study that I know of has ever been complete enough to warrant drawing any sound conclusions. Not long ago, an article in our daily papers quoting Dr. Palmer Johnson of the University stated "that the income, over the past thirty years, of university graduates who received degrees, ranged from \$1,722 to \$7,791, and that the physicians were at the top of the list." This statement was misleading because I believe it only referred to physicians on salary, but in any event, as you will remember, there are 168,000 physicians in the United States, and this study and the results are based on the replies to the questionnaires of only 400 physicians.

A questionnaire study in 1929 of the West Virginia State Medical Association, which is said to have been answered by a majority of the members, showed an average gross income of \$9,580.60 with a net income of \$6,414.43, the largest net income being \$28,000, and the smallest \$420. This is a state with a ratio of 971 people to each physician.

A questionnaire prepared about the same time by the Hennepin County Medical Society, which was answered by 169 out of 550 members, gave an average income of \$10,300, with an average expense of \$3,400, and a net income of \$6,900. The figures of these studies vary so much with the figures derived from the study of the estimated total medical income, that one is forced to conclude that physicians of from medium to small earnings do not, as a rule, answer these questionnaires, and that with the comparatively small number replying, a few of the largest incomes have undue influence in raising the general average. In the past two or three years, estimates have been published of the total medical income for the United States. These estimates have varied from \$600,000,000 per year by a report, the source of which is unknown to me at this time, to one two years ago of 500 million by the Metropolitan Life Insurance Company, and one, the most recent, as given out by Mr. Paul Ben-



jamin, secretary of the Committee of Fifty, of 450 million dollars. Now then, let's take 500 million as a medium figure. Dividing that sum by the 125 thousand practicing physicians gives us \$4,000 as the average gross medical income. With an average overhead of 30 per cent, this would leave an average net income of \$2,800 (Table V).

TABLE V

PHYSICIANS' EARNINGS IN RELATION TO COSTS OF  
SICKNESS PER YEAR IN UNITED STATES

Patent Medicines and Drugs.....	\$700,000,000
Physicians .....	500,000,000
Hospitals (civil).....	380,000,000
Nurses (all forms).....	200,000,000
Dentists .....	150,000,000
Non-Medical Practitioners.....	50,000,000
125,000 physicians dividing \$500,000,000 = \$4,000 each	
Average overhead 30%      Net average income \$2,800	
Allowing 30 day vacation      Employed 335 days	
\$2,800 for 335 days = \$8.35 per day	

Should we allow a thirty day vacation period, a physician would have 335 working days. This would give an average daily net income of \$8.35. Just where the medium income of physicians should be placed is hard to decide. It is probably considerably higher than the figure represented here, but undoubtedly a great deal lower than would be indicated by some of the studies already mentioned.

It is interesting to notice the 700 million spent for patent medicines and drugs, the tremendous amount being paid in hospital bills, the enormous amount now being paid to nurses, the comparatively smaller sum to dentists, and the 50 million dollars that goes to the non-medical practitioner.

TABLE VI

## MINNESOTA NON-MEDICAL PRACTITIONERS

	Chiropractors	Osteopaths	Midwives	Masseurs
1928	493	162	111	268
1929	486	160	101	214
1930	462	165	95	200
1931	451	162		
Minneapolis	161	49	21	39
St. Paul	49	22	22	89

There has been apparently a tendency for chiropractors to leave the state (Table VI). We still have the same number of osteopaths as we had four years ago. We have not investigated records previous to the time of the Basic Science Board, but it is quite evident that the heroic efforts of our legislative committee in passing the basic science law has put an effective stop to the influx of nonmedical healers in Minnesota. And, if we will back up our legislative committee in its

efforts to prevent legislation which will break down this defense, we can look forward to the time when there will be few osteopaths and fewer chiropractors in Minnesota and the other still worse types of healers will be entirely eliminated.

There are a great many influences which are now at work which have a direct bearing on medical income. Some of these are new and hard to evaluate.

TABLE VII

INCREASE IN MEDICAL AND NURSING PROFESSIONS  
IN UNITED STATES

	Physicians	Nurses
1900.....	122,167	11,804
1910.....	135,317	82,327
1920.....	145,608	149,128
1930.....	168,201	214,751
	Graduated	
1930.....	4,565	18,000

In 1900 (Table VII) there were 122,167 physicians and 11,804 trained nurses in the United States. The increase in physicians was 13,000 in the first ten year period, 10,000 in the second ten year period, and 23,000 in the last ten year period. On the other hand, the nurses increased 71,000 in the first ten year period, 67,000 more in the next ten year period, and 65,000 in the last ten year period, until today, with 168,000 physicians, we now have 214,751 graduate nurses. In other words, there were four graduate nurses in 1930 to each graduate physician.

Dr. Olin West said recently that "we have gradually succeeded in raising the standards of nurses' education until they are now 'pretty good doctors.'" We realize, of course, that many thousands of these nurses are not actively engaged in the nursing profession. However, many of them have gone into public health fields and are doing work which is very nearly medical, and in not too few instances, directly in competition with physicians. The trained nurse is potentially a source of fairly sound, cheap, medical information. It cannot be assumed that because many of these women are no longer practicing their profession that they are not still a very prolific source of free medical advice. How many thousands of sick people are saved the expense of a physician's service by the free advice of the public health nurse, the school nurse, the insurance nurse, or by the sister or neighbor upstairs who is a trained nurse, cannot be estimated. But this huge number of medically trained people creates

a problem never before met in history and is worthy of profound consideration on the part of the medical profession.

The influence of free clinics on medical earnings presents another problem which is mostly of importance because of the rapid growth of this sort of free medical service, which, in most instances, is not promoted or controlled by the medical profession. The chart shows that we had 600 free clinics in 1910, and it is estimated that there are now 6,000. A study made in New York City, with a population of six million people, showed that 1,250,000 people visited free clinics, making the total visits 6,000,000. If this group of people had been compelled to make some provision for medical care, even the small amount of \$1.00 for the year, it would have augmented the income of physicians in this area by one million and a quarter dollars.

The interest of the lay public in medical matters has been greatly enhanced in the past few years. Seldom do you pick up a newspaper that does not contain from one to four, or more articles, pertaining to some phase of medical practice. The great amount of time lost due to sickness and injury has aroused the interest of industry.

The company physician is becoming an integral part of the personnel of a great many industrial organizations. This may be the first step toward the encroachment of business organizations in the field of medicine. It is estimated that 42 million people are gainfully employed in the United States. Each employee loses on an average of eight days a year as a result of sickness or accident. This results in a loss of 350 million working days, which, with the death annually of 500,000 workers, results in an estimated annual loss of \$1,800,000,000. The estimate of \$1,000,000,000 of this which could be saved to industry by proper medical advice and care, to me is grossly excessive. We are given credit for altogether too great an ability in the preventive field, which may eventually be to our own undoing. Certainly mediocre work and the care of the injured will not be long tolerated by either the employer or the insurance company.

There is much to be said about the corporation practice of medicine and undoubtedly the cost of illness could be greatly reduced by better organization of medical practice. Our present scheme of caring for the sick is to the people

ruinously expensive. The physicians are directly responsible for making many medical paupers.

Our 7,000 hospitals, with an investment of three billions of dollars, are only exceeded in industry by iron and steel, textiles and their products, chemicals and allied products, and food and kindred products. There were only 2,070 hospitals in 1900. This number has increased 200 per year since that time. In 1909, the estimated bed capacity was 421,065. In 1928 the bed capacity had reached 892,924, and today is well over a million.

Too many physicians naturally raise the cost of medical care. Unnecessary medical procedures and unnecessary visits are a natural result of scrambling to make a living. Undue competition tends to unnecessary and over-elaborate office equipment, and a small number of patients does not allow an adequate spread of overhead.

Studies of 150 medical clinics in this country, most of which are in the middle west, tend to show no increased cost to the patient and a decidedly increased income to the physicians in these clinics. The cost of care of the sick by the government, while in many ways extravagant, is very much less than could possibly be made to pay by the private physician. One of our great local institutions is able to give adequate daily care for 600 sick and convalescing patients at a medical expense of \$55 per year per patient. Unless the medical profession can organize itself so as to eventually decrease the cost of medical care, there is no doubt but that there will be a great increase in the number of individuals accepting medical charity, or lay organizations will come into the field with proper organization and provide medical service at a very much lower cost than that which prevails today with very considerable profit to themselves.

Just one more step and we will have institutions established and thoroughly equipped and operated by lay people, managed by lay people, for profit, with doctors on a salary basis.

Perhaps the most eminent and important influence working into the practice of medicine at this time is that represented by health, injury and compensation insurance.

Most of the states have at this time some form of compulsory accident compensation insurance, but none so far has developed a compulsory sickness insurance. It is not necessary in this paper to discuss the different plans of compensation

insurance except to say that the plan varies greatly in different states. The important point to physicians is that it assures them a fairly adequate fee for the care of the injured. In 1930, there was paid to physicians in Minnesota \$2,100,000 by insurance companies, and this represents 37 per cent of the entire disbursement in this state under this act. In this type of insurance the compensation feature outweighs the cost of medical and hospital care. So, insurance companies are interested in getting the best possible surgical service and the tendency is to pay reasonably well.

Our legislative committee have fought and won a strenuous battle in this present legislature to maintain the right of the patient to select his own physician. However, the insurance companies will not tolerate incompetence or neglect in the care of the injured, and it is only a matter of time when they will hire their own physicians at a stated salary to do this work in the large centers at a much reduced cost to themselves. Voluntary health insurance is rapidly on the increase in this country. In 1926, there were 100,000 such policies, and in 1930, 2,000,000 health and accident policies covering 85 per cent of medical, hospital and nursing expense. While this is a move in the right direction, it is unfortunate from our standpoint that the people who are carrying this insurance are not the ones who are ordinarily objects of medical charity. Undoubtedly, in the near future, some form of compulsory health insurance will be enacted, and we must be well prepared, indeed, if we are to have any commanding voice in the drafting and enacting of such legislation. This is a world-wide movement, and if it will in some way provide a means by which the poorer classes are compelled to insure themselves against becoming objects of charity, medical and otherwise, when they are ill or injured, it will undoubtedly be of great value.

However, in every scheme of health insurance now in existence, the compensation to physicians for service rendered is pitifully small as compared with what we now receive, and in most countries compulsory health insurance is not limited to the poorest classes but includes many who are well able to pay adequately for medical service.

You will note (Table VIII) that Germany was the first country to establish this plan of insurance and it goes back to 1883, while France is the

last one, starting their scheme in 1929. The League of Nations in its International Labor Bureau Report of 1927 approved and recommended that all countries adopt some plan of compulsory health insurance. Mr. Paul Benjamin, secretary of the committee of fifty, when here, stated unofficially that he thought that some plan of insurance would be recommended in the report of this committee as a means of lessening the burden of the present medical cost. Dr. West said, in regard to the same committee, "I can venture no prediction, I can only promise you that if I can prevent it, no socialistic schemes will be advocated, but I am, of course, only one of a committee of fifty to sixty members."

TABLE VIII  
COMPULSORY HEALTH INSURANCE

Germany .....	1883
Hungary .....	1891
Norway .....	1909
Great Britain.....	1911
Bulgaria .....	1918
Portugal .....	1919
Poland .....	1920
Japan .....	1923
Chile .....	1924
France .....	1929

Today more than half of the German population is participating in health insurance schemes. Of the physicians in Germany, 80 per cent are deriving all or part of their income from panel patients; 15 per cent are salaried physicians; and only 5 per cent of the German physicians are practicing independently. The ratio established in Germany by the insurance companies indicates that there should be one physician to every 1,350 people.

It is most interesting to note that with 40,000 physicians working in the German panel, there are 27,000 civilians in the administration department, and, incidentally, the large incomes are in this group only. The ridiculously small earnings of the physicians of this system is illustrated by the fact that the care of a patient for one month in Danzig is less than the price of a hair cut and massage.

In England the situation is somewhat better. Only the workers, and not their dependents, are permitted to participate in the panel, and only those services which could be considered as work of general practice are included in the regular fee. All major operations and work of specialists must be paid for, or is paid for, by a special

additional fee. They consider from 900 to 1,500 people an adequate group for a panel physician, the patient in all cases having a right of selection. The amount of \$2.25 per year is paid to the physician for all persons who register with him regardless of whether or not they are in need of medical service.

These insurance schemes are great levelers. They insure the younger and less successful man at least a reasonable amount of work although the compensation is comparatively small.

I would like to further discuss the details of the operation of these schemes for medical care, but time does not permit. We must assuredly be prepared for the proposal of some such scheme in this country. In most other countries, no matter on what high ideal the scheme was originally established, it has sooner or later become a political football and the medical profession has been hard-put to remain to any degree in control of their own activities.

In closing, let me sum up in a few words:

We have already more physicians in this coun-

try than are necessary to adequately and economically care for the sick.

Our medical schools are rapidly increasing the annual output of physicians.

The present distribution of physicians is poorly systematized and tends to undue concentration.

Too many physicians raise rather than lower the cost of medical care.

Just ordinary common sense and business acumen would prompt any great industry to carefully survey the market for its product, and hold production down to a point when supply will not exceed the demand so that it can be assured of a ready market at a reasonable return for the output. This is what we should do today.

The medical profession, as well organized as it is in Minnesota today, can and should undertake a careful and detailed study and analysis of the situation of the medical profession in this state, and, through its splendid organization, should take such steps as are necessary to protect the future practice of medicine as a means of livelihood.

#### THE FEDERAL FOOD AND DRUGS ACT 1906-1931

A quarter of a century ago, on June 30, 1906, President Theodore Roosevelt signed the Food and Drugs Act specifically designated "for preventing the manufacture, sale, or transportation of adulterated or misbranded or deleterious foods, drugs, medicines and liquors and for regulating traffic therein, and for other purposes." This measure has had a wholesome effect that can scarcely be realized by those not familiar with the conditions of the past. The American Medical Association, through the Council on Pharmacy and Chemistry, has been a pioneer in its efforts to protect the medical profession and the public against fraud, undesirable secrecy and objectionable advertising in

connection with proprietary medicinal articles. Its efforts have been greatly facilitated by the passage and enforcement of the Food and Drugs Act. The coming of age of the Food and Drugs Act should not be allowed to pass without some reference to the dominant figure in the crusade for pure foods and drugs, the late Dr. Harvey Washington Wiley. He was chief chemist of the U. S. Department of Agriculture during the period of the fight for the federal act, and until 1912, "a very mountain among men, a lion among fighters." The movement that he helped to start deserves unqualified commendation. The forces on the fighting line deserve congratulation. There is still much to be accomplished. Vigilance must never be relaxed. (Jour. A. M. A., July 4, 1931, p. 32.)



## PARESIS AND MALARIA\*

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SINCE 1917 the results obtained in the treatment of paresis have not only shown a lessened mortality, but have returned an increasing number of patients to economic recovery. This is encouraging when compared with results formerly obtained. Von Jauregg's work in introducing malaria for the treatment of this disease has not only given us a most valuable method of treatment, but has stimulated work in the treatment of syphilis by non-specific means, which in time may produce something more valuable than malaria itself.

In the majority of cases the spinal fluid is altered by reduction of cells; by diminution in total protein; often by reduction in the strength of the Wassermann reaction, and a modification or reduction in the colloidal gold curve. Clinically the results are at times startling, at other times disappointing, but on the whole the remissions have been more lasting, the mortality less, and the incidence of economic recovery markedly increased. The usual reported clinical recoveries from different studies by recognized authorities have ranged from 25 to 50 per cent. It must be remembered that these cases are practically all advanced to the degree of requiring hospital care, showing unmistakable mental symptoms and are economically totally incapacitated.

Pathologically paresis is characterized by thickening of the dura and pia arachnoid; a flattening and atrophy of the convolutions, especially of the frontal and parietal lobes, with some thinning of the cortex and loss in brain weight. There is increased vascularization of the cortex, and perivascular infiltration with round, plasma and mast cells. There is also a generalized proliferative glial reaction, and the nerve cells show all stages of degeneration. Inflammatory reactions are also found around groups of spirochetes within the substance of the brain. Areas of softening are also found secondary to peri- and endarteritic changes. There is considerable disorganization of the cortical layers and disappearance of the tangential and association fibers.

Degenerative changes may also occur in the basal ganglia, brain stem, and in the cerebellum. Jacob has pointed out that in paresis the tissue fails to react with sufficient strength against the spirochete and thus fails to produce the typical gumma, or characteristic granuloma. The miliary gummata occasionally found are considered by him to be specific and successful reactions against the infection. When this infection is severe, or the reaction weak, the process becomes malignant, and is represented by the non-specific diffuse reaction of paresis.

Spielmeyer has emphasized the important conception of two fundamental types of lesions found; the vascular (mesodermic) and parenchymatous (ectodermic). He has also emphasized the independence of these two types, and the importance of considering them separately in studying and comparing the pathological and clinical findings after treatment with malaria.

Just how malaria acts on the paretic brain has not been definitely settled. Freeman reported that during the early stages of treatment the inflammatory reaction appears to be exaggerated. He also believes that there is organization of the perivascular exudate, and finally a reconstruction of the cortical laminations. Many authorities have denied an exacerbation of the process, as well as the existence of a "healing inflammation." Straüßler and Koskinas described the regression of the pathologic process and a stationary appearance of the lesions, comparable to the picture of stationary paresis described by Alzheimer. They interpreted their findings as due to the non-specific and malignant forms of the paretic reactions undergoing a change into a more benign form. Kirschbaum thought that the malaria acts by simple reduction and moderation of the inflammatory exudate. Ferraro from a study of twenty-nine paretic brains concluded that the beneficial influence of malaria was chiefly exhibited in its effect on the inflammatory reaction. This change consisted in diminution of the exudate, and in the reduction of the new blood vessels. Its influence on the parenchymatous changes are less definite, but in favorable cases

\*Thesis presented before the Minnesota Academy of Medicine, February 11, 1931.

the beneficial influence is evident on both ectodermic and mesodermic reactions. He found no parallelism between the clinical course and the vascular reactions, but he did find a rough parallelism between the clinical course and the a subsidence of some of the parenchymal reactions.

In considering the subject of paresis it is necessary to consider the sequence of events following the initial infection. Brown and Pearce have shown experimentally that within a few days spirochetes may be secured from the heart, blood and lymph glands of rabbits. Dissemination of the organism probably takes place from the lymphatic system to the peripheral blood stream. From the blood stream they seek more favorable surroundings and after a second period of incubation in their new locations the tissues react with the secondary outbreak. At this time the immune reaction takes place. With the regression of the secondary lesions, the vast majority of organisms are killed by this natural defense. This immunity may prevent the organisms harbored in the lymph glands from being thrown off, or it may destroy those that later escape from these foci. The duration of this process varies from three to twelve months, and from then on the disease is latent. The *Treponema pallidum* probably is not neurotrophic, but involves the central nervous system by vascular routes as a consequence of the general infection. The spirochete has been demonstrated in the spinal fluid with otherwise normal spinal fluid findings. The same phenomenon has been demonstrated in rabbits. The reason for the incidence of neurosyphilis probably is accounted for by the nature of the soil on which infection takes place. Brown and Pearce have suggested that all tissues are not equally protected by the general reaction which occurs during the early stages of a syphilitic infection, and that certain tissues, which fail to receive this protection, may be capable of only a slight degree of self-protection. They believe that this holds true for reactions in experimental animals, and that this local immunity, or lack of it, may explain the incidence of neurosyphilis in man.

Filder, Maitland and Parnell in a study of 1,314 cases of early syphilis found a pleocytosis in the spinal fluid in 14 per cent during the primary stage, in 21 per cent during the late primary, and in 30 per cent up to eighteen months

following infection. The spinal fluid Wassermann reaction was positive in 3 per cent of the late primary cases, and in 6 per cent up to eighteen months. Fordyce and Moore also found in their series that the time of involvement of the central nervous system reached its maximum by eighteen months following the initial infection. From then on the disease is latent, and is known as latent, or asymptomatic neurosyphilis. In some cases the disease may never again become clinically active. However, should such a patient die at any time, a thorough microscopic examination will reveal the presence of small latent lesions which vary greatly in degree and extent. Warthin has stated that in no case of latent neurosyphilis has he found an absolutely inactive syphilitic infection. In nearly 100 per cent of these cases he found focal lesions in the meninges. There is apparently a slow progressive development of spirochete localization, with healing and fibrosis. They are found most frequently over the parietal, temporal and frontal lobes. According to Warthin they vary greatly in size and show every degree of transition between mild fibrosis to clinically active and more extensive involvement of the meninges. In the brain he found small localized areas of perivascular infiltration, similar to those found in the lesions in cases of paresis and cerebral syphilis. They are usually few in number, and very small in size, and they are found most frequently in the neighborhood of the frontal and parietal lobes, and especially in the neighborhood of the ventricles. The important consideration in latent, or asymptomatic neurosyphilis, is that active, progressive, pathological changes are present in the central nervous system as a consequence of syphilitic infection.

It is readily evident that the only means of diagnosing latent, or asymptomatic neurosyphilis, is by examination of the spinal fluid. For this reason no patient should be discharged from treatment of acute syphilis without such an examination. The ideal situation would consist of spinal fluid examination during treatment, and within a reasonable period up to five years following. The presence of an early positive fluid is a serious thing, and the failure of the profession at large to recognize this fact constitutes, in my opinion, one of the major reasons for the prevalence of clinical neurosyphilis. As a rule, the more marked the fluid changes, the longer it

takes to reduce it to normal. Also the more marked the fluid changes, the more serious is it to the patient. Usually the ordinary methods of treatment are sufficient for minimal and intermediate changes. However, the treatment should be guided by fluid findings, and many cases will require more intensive treatment than others.

In this consideration it is interesting to note Moore's findings in insufficiently treated cases of latent neurosyphilis. He found that inadequate treatment caused an increase in the group showing the paretic formula. This may explain the earlier onset and, according to Nonne, the increase of paresis following the introduction of salvarsan. It is with this group of cases showing the paretic formula, a four plus Wassermann a paretic gold curve, increased cells and globulin, that we are particularly interested in this discussion. I know of no large group of cases of latent syphilis of this type which has been adequately studied. It is essential that titrated Wassermann reactions be done; that colloidal gold, or similar reactions, be used to bring out the paretic curve, and definitely separate this group from ordinary asymptomatic neurosyphilis. I am unaware from a search of the literature of such a study having been done in a large group of cases extending over a period of a decade. When we consider that paresis usually exhibits itself clinically fifteen to twenty years after infection, the need for further investigation of the fate of these individuals showing the paretic formula is realized. In a series of thirty-six such patients under Moore's observation for only eight years, only 27 per cent can be regarded as clinically and serologically well; thirty-three per cent have developed clinical neurosyphilis, and in 40, per cent the status is questionable; seven have developed paresis, and three tabes. It was found that the usual methods of treatment were of no avail, and those that did show a satisfactory fluid reduction took on the average forty months' intensive treatment, and in many malaria and trypanamide were needed. This excellent but unfinished study by Moore of a small group of these cases, over a comparatively short time, gives an indication, at least, of the serious prognosis and grave danger of subsequent ruination by parenchymatous neurosyphilis.

The early asymptomatic cases are in the hands of the syphilographers and general profession. The majority still go unrecognized as such. The

neurologist, as a rule, does not see them until many years later, when clinical signs are evident, and in many the destruction has progressed to such an extent that cure, or even alleviation, is frequently impossible. If results are to be improved, these cases must be diagnosed and treated earlier than at present. It is essential that not only clinical results be obtained, but that the serology be reduced to normal if possible.

Just when paresis begins is extremely hard to determine. Theoretically speaking, the preparetic stage extends from the time of initial infection until the frank appearance of paresis. The first stage is asymptomatic or latent; the second stage has been described by Jelliffe as neurasthenic. During this stage neurasthenic symptoms appear with very fine gradations of personality and conduct changes. The correct diagnosis of this stage is paresis sine paresi. After a variable period of time the mental symptoms make their appearance, and it is in this period, usually fifteen to twenty years after the initial infection, that the diagnosis is made and serious treatment begun.

The treatment of paresis may be said to be an attempt to prevent as much as possible parenchymatous destruction in the brain. Logically to do this most successfully the attempt must be made before destruction has markedly progressed. In other words, we must recognize the potential case and treat it accordingly. Because I believe that malaria is, at present, the most effective method in treating paresis, I advocate its use in all suitable cases of neurosyphilis showing a paretic formula which fails to reduce after a reasonable trial with the usual methods. The following cases are illustrative:

#### CASE REPORTS

*Case 1.*—A male, aged 43, married, was first seen in May, 1925. He had had a chancre twenty years previous. He had the usual secondaries, and received inadequate treatment. In 1922 he noticed his left hand closed on him occasionally while working. In August, 1923, he suddenly became unconscious. On coming to, he was drowsy and his left arm was paralyzed. He recovered the use of his arm and hand in a few days, and since then has had no recurrence of these spells. He stated, however, that when he got nervous he lost some control of the left hand, and it would shake. He suffered frequently from headaches during the last two or three years. He had no girdle or lightning pains, and had no trouble in handling the legs. In 1925 he made an application for and was refused life insurance. He then consulted the late Dr. Sweeney and myself on May 6, 1925.

On examination his pupils did not react to light. The right was larger than the left. Test words were well enunciated. The strength in the right and left upper extremities was equal. The abdominal and cremasteric reflexes were present. The right knee jerk was one plus; the left three plus. Achilles reflexes were both present. There was no clonus or Babinski; the co-ordination was good, and the fundi were normal. Spinal fluid examination showed cells 45; gold sol. 4423120000; Wassermann 4 plus; globulin positive; blood Wassermann 4 plus. He received active and continuous treatment until December 12, 1927, when the spinal fluid showed cells 18; Nonne ++; Wassermann ++; mastic +; gold sol. 55555540000; blood Wassermann negative. His subjective symptoms in the meantime had cleared up, and he felt well. He was discouraged about the results from two and a half years continuous treatment, for although some improvement was obtained in reducing somewhat the strong Wassermann reaction, yet the gold curve was unmistakably stronger in the paretic zone, and the fluid on the whole showed the paretic reaction.

In January, 1928, he was inoculated with malaria. He had ten paroxysms, during which his temperature varied from 103° to 106°. He made an uneventful recovery, and returned to work in April, 1928. His health improved, he gained ten pounds in weight, and he stated eight months after the malaria that his health was better than it had been in years. On September 2, 1929, spinal fluid cells were 2; Wassermann negative; globulin a trace; gold sol. negative; blood Wassermann negative. In September, 1930, the fluid continued negative, and he is in good health.

At no time could this man have been diagnosed as a clinical case of paresis. Dr. Sweeney and I thought he was a potential case, and that there was grave danger of his later developing paresis. For this reason, when prolonged treatment of tryparsamide and arsphenamine failed to reduce the fluid to normal, he was given malaria. It accomplished the desired results, and so far, at least, he seems to be out of danger. With a negative fluid, his chances of escaping this fate are probably much improved.

*Case 2.*—A single man, aged 43, admitted a gonorrheal infection fifteen years previously. For the past two years, he had had several spells during which he developed a weakness of the left arm and leg. He also said his head felt "wooden" at times, and he said he noticed that his memory was rather poor, and he would have trouble in concentrating on his work. He was rather apprehensive during these spells, which would last for a few days, and at one time he had the fear that he was going to lose his mind. He consulted his doctor, who made a diagnosis of neurosyphilis, and gave him treatment with arsphenamine and bismuth for a year and a half. He was referred to me for examination in September, 1929. The pupils reacted sluggishly to light. There was an internal strabismus of the left eye. His speech was normal. There was a slight tremor of both hands. The right optic disc was somewhat pale. Spinal fluid showed Wassermann 3 plus; gold sol. 555543000; globulin one plus; cells 18.

His mental reactions seemed slightly sluggish to me, but he showed no memory defects to recent or past events, nor any malignant mental signs. He was somewhat apprehensive about losing his mind, and he stated that mental work was harder for him. Treatment with malaria was advised. This was given in November, 1929, and he had five severe chills, accompanied by marked prostration. His blood pressure went from 130 to 90, and the treatment was then terminated with quinine. He made a prompt recovery, and returned to work in January, 1930. His health was improved, and he was elated over the results of the treatment. He told his physician that he was better than he had been for the last four or five years. I reexamined him in October, 1930, and found his pupils reacted promptly, the strabismus remained the same, there were no tremors, and the examination was otherwise negative. The spinal fluid was examined by the same laboratory as formerly, and it was reported normal.

This man had developed a hernia in July, 1930. In November, 1930, he had this hernia repaired. Unfortunately, he developed pneumonia a few days following operation and died. An autopsy could not be obtained. This is also a case of neurosyphilis showing a paretic formula of the spinal fluid, which was reduced by malaria when the ordinary methods failed. At no time could a clinical diagnosis of paresis have been made.

*Case 3.*—A man, aged 29, consulted me December 6, 1928, complaining of occasional dizzy spells during the past two months. He also complained of occasional pain in the back of the neck, nervousness and fatigue. He gave a history of a chancre seven years ago, and during the year following he stated he had pain in the back of the neck. He received inadequate treatment. The present pain reminded him of the previous one, and he thought there might be some connection between the two.

The physical examination was negative. I found his pupils reacted to light and accommodation, and from an objective standpoint a diagnosis of asymptomatic neurosyphilis could be made. His spinal fluid showed Wassermann 4 plus; cells 52; gold sol. 5555542000; globulin 2 plus. He received thirty-eight treatments of tryparsamide, and about the same number of bismuth. In May, 1930, the blood Wassermann was positive. The gold curve was still strongly paretic; the spinal Wassermann was 4 plus; and cells 18; globulin 1 plus. During this course of treatment his subjective symptoms improved somewhat as far as the dizziness and pain were concerned. However, he still had spells of fatigue, and afforded a typical neurasthenic picture.

He was given malaria in June, 1930. In December, 1930, he reported that he has been working steadily since August, and that he felt much better. He is not suffering from so much nervousness and seems very grateful for what has been done for him. A spinal fluid examination on December 31, 1930, still shows a strongly positive fluid. The only improvement being noted is a reduction of cells from 18 to 4, and a 2 plus globulin reduced to a slight trace. The Wassermann reaction and colloidal gold remain the same as they



were six months ago, prior to the malaria. He has had no other treatment since he had the malaria, but his spinal fluid finding will be checked at least yearly if possible.

Two of these cases were unmistakably neurosyphilis from a clinical standpoint. One is of the asymptomatic type from an objective sense. There was nothing characteristic about his complaints. In all three strong paretic type fluids were found, and the usual methods of treatment were unavailing after a fairly reasonable trial. Malaria reduced the spinal fluid findings in two, and has partially reduced the third within six months. They illustrate the type of case which, in my opinion, is best suited for malarial therapy, which constitutes the ideal method, for the present at least, of treatment of paresis. I am perfectly aware that perfection will never be obtained in the treatment of this disease, but the least we can do is to strive for the ideal. It may

be occasionally possible to accomplish this by the method of treatment above described.

Final conclusions, of course, cannot be drawn from an investigation of three cases of this type. However, it may be concluded that to diagnose the more serious form of asymptomatic and symptomatic neurosyphilis, thorough spinal fluid examinations are necessary. Furthermore, these fluids are exceedingly hard, and often impossible, to reduce by ordinary treatment, but malaria can often accomplish this when other methods fail. Finally, it must be concluded that to derive the maximum benefit the treatment of paresis must be instituted before much parenchymal damage has been done. In order to accomplish this, the use of malaria in those cases which are in grave danger of later developing the disease, is advocated.

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#### NEW MENINGITIS ORGANISMS DISCOVERED

A new group of epidemic cerebrospinal meningitis germs has been discovered at the National Institute of Health at Washington during studies conducted under the direction of the United States Public Health Service. This is the fifth group of these dangerous germs to become known.

During the last five years there has been more of this infectious disease in the United States than at any time since the World War. A wave of epidemic cerebrospinal meningitis has traveled slowly across the United States from the Pacific Coast, Dr. Sarah E. Branham, engaged in meningitis research at the National Institute of Health, said in remarking on the discovery. This wave manifested itself in severe outbreaks in many centers of population—as, for example, in Salt Lake City, Chicago, Memphis, Detroit, Indianapolis, Philadelphia, and New Haven.

The new group of meningitis germs was found while Dr. Branham and her co-workers were endeavoring to find an improved serum for the treatment of this disease. They were engaged at the time in examining more than 400 cultures from epidemic cerebrospinal meningitis collected from various sections of the country where flare-ups had appeared.

Outbreaks of cerebrospinal meningitis often seem to be spontaneous and are sometimes widely separated, Dr. Branham pointed out, because only a few individuals out of many persons who may carry the germs of spinal meningitis in the respiratory tract actually

may contract the disease. These carriers, though, may spread the infection.

The germs of this disease are grouped according to "strains." Not all strains are alike in their power to produce the disease. Some are very virulent and deadly and more apt to cause a fatal form of the disease than other strains. More than 50 per cent of the cases in the recent epidemics of cerebrospinal meningitis have been fatal in some localities, while in other cities the deaths have been fewer.

Although primarily a disease of children, epidemic cerebrospinal meningitis affects adults also, especially those living under crowded conditions and following a radically changed routine of life. Such conditions aided widespread and fatal outbreaks of epidemic cerebrospinal meningitis during the World War among soldiers encamped in this country and abroad.

Although the "meningococcus," as this germ is called, was discovered by Weichselbaum in 1887, the fact that all strains were not alike was first recognized by the French bacteriologist, Dopter, in 1909, and recognition of the first four groups of cerebrospinal meningitis germs was made by Dr. M. J. Gordon, a British physician, and his co-workers, during the World War. The majority of the "strains" sent to the National Institute of Health during the recent epidemics in the United States have been found by Dr. Branham and her associates to fall into the four groups of Gordon. The new fifth group has been found to be predominant in some parts of the Middle West.

U. S. P. H. S.

## THE PATHOLOGY AND PATHOGENESIS OF OCULAR MELANOMATA\*

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THE term melanoma is used in the present study to designate all pigmented or pigmented (potentially pigmented) tumors which are primary in the various coats of the eyeball. Such a group includes pigmented and unpigmented nevi of the ocular conjunctiva; pigmented and unpigmented sarcomata of the iris, ciliary body and choroid. In the older literature these tumors of the uveal tract were called leukosarcoma and melanosarcoma.

Ocular melanomata form a part of a larger group of pigmented tumors which are also found to be primary in the skin, meninges, rectum and adrenals. The bizarre appearance of this entire group, including those of the eyeball, is well known. In their histological appearances they may simulate a sarcoma, carcinoma, angioma, endothelioma and nephroma or hypernephroma. It is because of this pleomorphism that the pathogenesis of the ocular melanomata has been and still remains in a large majority of cases quite obscure.

### EPIBULBAR MELANOMATA

Epibulbar pigmented tumors usually develop in situ in the bulbar or palpebral conjunctiva. In some cases, however, the growths in this location are due to extraocular extension of an intraocular pigmented tumor.

Primary epibulbar melanomata or nevi are congenital and benign but may become highly malignant. In structure and appearance they are very similar to nevi of the skin. Nevi of the conjunctiva most frequently occur in the bulbar conjunctiva just posterior to the limbus. In the majority of cases they are heavily pigmented, but in rare instances show little or no pigment even after study with serial sections. Grossly the nevi are black or reddish-brown spots of variable size. They are always smooth and may be flat or slightly raised and gelatinous looking.

In their histological appearance the conjunctival nevi resemble very closely those of the skin. The conjunctival epithelium is prolonged down-

ward into the underlying connective tissue in the form of cords or club-like expansions which form a network or (as it appears in sections) nests of rounded or polygonal cells—the so-called nevus cell. In many instances the nests of nevus cells are surrounded by numerous small blood vessels and blood spaces, giving the appearance of an angioma or vascular nevus. In other cases cystic spaces of variable size are formed in the cords or nests of nevus cells, forming a cystic nevus. Pigmentation is quite marked in the majority of cases. The granules of melanin are found both intra- and extra-cellular. The surface or outermost layer of cells usually shows more pigmentation than the deeper layers.

Owing to the polymorphic nature of the nevus cell, its origin has furnished a problem of long debate. Unna, Post, Wieting, Dawson, and Brothers and McCarthy believe that the nevus cells have their origin from epithelium. Ribbert, on the contrary, believes the nevus cells have their origin from the pigmented branching connective tissue cells or chromatophores of the corium. Recklinghausen believes they have origin from the endothelial cells of the lymph vessels.

Dawson, in his recent monograph on the melanomata, shows very clearly, both in the cutaneous and conjunctival melanomata, the origin of the tumor cells from the rete cords of the surface epithelium. The basal cells of the rete cords proliferate and form intraepithelial cell nests. These nests enlarge, break through the basement membrane, and form club-like expansions which grow down into the underlying connective tissue in anastomosing cords, forming a reticulum of tumor cells. In its subsequent development the melanoma usually assumes one of three forms.

1. The cell nests grow down into the underlying connective tissue, retain their round or polygonal shape, arrange themselves in an alveolar or acinous grouping resembling an epithelioma or carcinoma.

2. The cell nests break up and form a syncytium of elongated branching cells resembling a sarcoma.

\*Thesis read before the Minnesota Academy of Medicine, at its regular monthly meeting of March 11, 1931.

3. The cell nests form a syncytium of branching elongated cells which become permeated by new formed capillaries simulating an endothelioma.

The majority of congenital nevi of the conjunctiva, like those of the skin, remain benign and undergo fibrosis and degeneration. The three preceding forms just described represent processes which may develop as a result of malignant change. Other characteristics of malignancy are increase in size of the tumor, increased vascularity, hyperchromatic nuclei, and numerous mitotic figures.

#### INTRAOCULAR MELANOMATA

Intraocular melanomata have their origin in the tissues of the uveal tract, *i.e.*, the iris, ciliary body, and choroid. In rare instances primary melanotic growths have been described as arising in the sheath of the optic nerve. The intraocular melanomata are usually primary, a search of the literature revealing only three instances of metastatic melanoma reaching the eye by metastasis from cutaneous melanomata. The most recent of these was reported by Cordes and Horner at the last session of the American Medical Association. In all of these metastatic cases the eyes became involved as a part of a generalized melanosis.

Nevi or benign melanomata of the iris are not infrequent. They may involve any part of the iris, but are more commonly situated near the pupillary margin. They may be single or multiple, and are of variable size. Grossly they appear as flat pigmented spots or small circumscribed tumors.

Microscopically nevi of the iris resemble very closely those of the conjunctiva and skin. The nevus cells may simulate those of carcinoma, sarcoma, or endothelioma. Since there is no epithelium on the surface of the iris, the origin of these nevi has furnished considerable discussion. Knapp in 1869 described a circumscribed new growth in the iris consisting of branching anastomosing cells, mostly pigmented, which he thought developed from the chromatophores normally found in the iris. Fuchs and Anargyros described diffuse, deeply pigmented tumors in the iris stroma which they believe develop from the pigment epithelium of the iris. These most frequently are located at the pupillary margin of the iris, where two layers of the secondary

optic vesicle unite. A marked proliferation of the pigment epithelium in this region is normally present in the iris of the horse.

These melanotic spots in the iris are practically always benign and remain unchanged for years. Occasionally, however, they become malignant and develop into tumors which in most cases resemble sarcomata. Rare examples in which the tumor cells resemble endothelioma and carcinoma are described. In our collection we have one specimen of a well developed circumscribed nevus which shows beginning malignant change.

Primary malignant melanoma or so-called sarcoma of the iris is rare. According to Fuchs only about 6 per cent of all malignant melanomata involving the uveal tract are found in the iris; 9 per cent are found in the ciliary body and 85 per cent in the choroid. The iris is frequently involved secondarily by direct extension of melanomata from the ciliary body and occasionally from the choroid. Primary malignant melanotic tumors of the iris are usually of the diffuse type, as contrasted to the globular circumscribed growths of a similar nature which involves the ciliary body and choroid.

It has been shown by Treacher, Collins, Ewetzky, Hirschberg, Hosch, Whiting, and others that many of these malignant tumors of the iris develop from congenital nevi which have been quiescent for many years. Dawson believes that malignant melanomata of the iris can develop from any of the pigmented tissues of the iris. This would include the chromatophores, the pigment epithelium and congenital nevi. From a study of the literature and from a study of the specimens at our disposal, it is evident that only rarely can it be shown that these tumors arise from the pigment epithelium of the iris.

While the majority of malignant melanomata of the iris are diffuse growths, occasionally they are nodular in character and quite vascular. In some instances the growth may form multiple nodules scattered through the stroma of the iris. These in all probability represent localized metastases through the blood vessels or lymph spaces. In rare cases the tumor may spread diffusely throughout the entire circumference of the iris forming a so-called annular or ring sarcoma. Annular malignant melanomata of the iris are very rare. The first reported case was by Solomon in 1882. Since that time only eight

similar cases have been reported in the literature. One of these cases was reported by Dr. W. R. Murray in the *American Journal of Ophthalmology* for 1927. I had opportunity to make a rather complete pathological study of the eye in this case and for this reason wish to report it in detail.

The case is that of a farmer boy, nineteen years old, who came to the University Hospital complaining of gradual loss of vision in the left eye for a period of three weeks. His parents had noticed a change in the color of the iris in this eye about one year previously. There was no history of injury and there had never been pain or discomfort at any time.

Examination showed a mild injection of the bulbar conjunctiva and anterior ciliary vessels. The anterior chamber was very shallow; the pupil was dilated and immobile. The iris showed scattered areas of deep pigmentation extending from the root of the iris to the pupillary margin and involving its entire circumference. The pigmented spots were of variable size, and were not raised above the level of the surface of the iris. The lens showed a few pigment spots on its anterior surface. There was deep glaucomatous cupping of the optic disc and secondary atrophy of the optic nerve. The intraocular tension was 45 mm. Hg. Vision was reduced to light perception. The right eye was normal and had normal vision. The eyeball was enucleated and showed the following gross and microscopic pathology: Gross diameters of the eyeball were about normal. The cornea was clear. The anterior chamber was very shallow. The pupil was dilated and oval in outline. The iris was thickened in its peripheral portion and adherent to the cornea throughout its entire circumference, completely obliterating the filtration angle. There were no circumscribed nodules to be found in the iris. Pigmented areas were present on the surface of the iris extending from the periphery to the pupillary margin. The lens was slightly pushed forward, but was clear except for a few pigment spots on its anterior capsule. The vitreous was clear; the retina and choroid appeared normal. The optic disc was deeply cupped.

A portion of the eyeball was embedded in paraffin and a portion in celloidon and serial sections cut at intervals of 10 to 15 micra. The corneal epithelium, Bowman's membrane, corneal stroma, and endothelium were normal. The conjunctival vessels at the limbus were congested but there was no chemosis nor evidence of epibulbar extension of the growth. The root of the iris was uniformly thickened and adherent to the cornea for a distance varying from 0.5 to 1.5 millimeters. The thickening of the iris was due to a diffuse tumor involving the entire circumference of the iris and extending onto the posterior surface of the cornea and also for a short distance into the ciliary body. The tumor was composed of round and spindle-shaped cells, many of which were deeply pigmented. In some places where the cells were more densely packed there was a tendency to alveolar formation.

There were a few mitotic figures present. There were no giant cells, hemorrhage or necrosis. The tumor cells extended into the meshes of the pectinate ligament and into the ciliary body for a short distance. In a few sections the tumor cells were found extending into the sclera along the anterior ciliary veins. The ciliary body was thinned and atrophic. The optic disc showed deep glaucomatous cupping and secondary optic atrophy. The diagnosis was annular malignant melanoma of the iris involving the cornea and ciliary body; secondary glaucoma; secondary optic atrophy. The origin of the tumor cells in this case could not be ascertained, but from the character of the cells and the history of slow onset, it was probable that the growth developed from a preëxisting congenital nevus or possible multiple nevi.

About 9 per cent of all intraocular malignant melanomata are found in the ciliary body. In the vast majority of cases the tumor assumes a circumscribed globular shape or becomes pyramidal in outline, resembling the shape of the ciliary body itself. In rare cases the tumor is flat and infiltrating in character and may encircle in part or entirely the circumference of the ciliary body, similarly to that just described in the iris. Only about fifteen cases of annular malignant melanomata of the ciliary body have been reported in the literature.

Melanomata of the ciliary body practically always involve the adjacent iris and choroid by direct extension. When the growth is located in the posterior portion or flat part of the ciliary body it is often difficult to determine whether it originated in the ciliary body or choroid. Retinal detachment, which develops so early in choroidal melanomata, comes very late or not at all in ciliary melanomata, especially when the tumor is located in the anterior part of the ciliary body.

The majority of ciliary melanomata are pigmented. These form the group of so-called melanotic sarcomata. Pigmentation is due to the presence of brownish-black granules of melanin found both in the cell cytoplasm and intercellular stroma. The cell types in the pigmented tumors are similar to those unpigmented. The degree of pigmentation and its distribution vary considerably. In some cases only a few cells are pigmented, while in others the whole tumor is so deeply pigmented it is difficult to study the cell structure. In other cases one portion of the tumor may be entirely free of pigment, while another is heavily pigmented.

About 85 per cent of all intraocular malignant melanomata have their origin in the choroid.



They may originate in any portion of the choroid, but are much more common in its posterior half. Fuchs states that 85 per cent of the choroidal melanomata are posterior to the equator of the globe. The majority of choroidal melanomata are circumscribed rounded growths that break through the lamina vitræ (Bruck's membrane) and fill the greater part of the vitreous cavity. From its point of origin the tumor spreads laterally, forming a lenticular or disc-shaped growth which gradually thickens and ruptures the glass membrane. After reaching the vitreous chamber the tumor grows more rapidly and expands into a mushroom-shaped mass, pushing the retina forward. The retina early become detached by serous exudate over an area considerably larger than the tumor. Finally complete axial separation occurs. Occasionally the retina becomes invaded by a rapidly growing tumor.

In rare instances choroidal melanoma develops as a flat diffuse infiltrating growth involving a large area of the choroid, but forming no circumscribed growth. Owing to the flatness of the growth, the retina is usually not separated until very late, and the lamina vitræ remains intact. This type of growth is similar to the annular or ring tumors found in the iris and ciliary body.

The histology of choroidal melanomata is very similar to that of the ciliary body. Some of these growths show numerous new formed blood vessels and large blood spaces. These are often called angiosarcomata. Due to their rapid growth, when once they rupture the lamina vitræ, necrosis is commonly found. In some cases the greater part of the tumor may be necrotic.

The minute structure and cytology of malignant melanomata varies considerably, not only in different tumors, but also in different areas of the same tumor. In the literature most classifications are based upon the shape and arrangement of the individual cells and their degree of pigmentation. Fuchs, in his monograph on tumors of the uveal tract, enumerated fourteen types. Kerschbaumer listed six, while Lagrange recognized two main groups: (1) the pigmented and non-pigmented sarcomata; and (2) the endothelial sarcomata or tumors supposedly originating in the endothelium of the perivascular lymph spaces.

In the rapidly growing, circumscribed tumors, the predominating cells are spindle-shaped, often closely packed together, with little or no pigment,

and a goodly number of mitotic figures. This type of tumor is the leukosarcoma of the old literature and closely resembles sarcoma found in any part of the body. The cells are elongated or fusiform in shape, of variable size and have a large chromatic nucleus. The cells are closely packed, with little or no stroma, and form bundles which interlace in various directions. In the smaller group of tumors the predominating cells are rounded or oval with blunt processes. The cells vary greatly in size, and when closely packed may be polygonal. Some tumors exhibit both spindle and round cells, forming a mixed cell type. In all of these types a few scattered multinucleated cells may be found. In rare instances, however, giant cells are abundant.

The origin and nature of the pigment in melanotic tumors has been the subject of long and elaborate investigation and much debate. It has been conclusively shown, I believe, that melanin is a direct result of cell metabolism. It is usually free from iron and sulphur, but rapidly unites with these elements, and for this reason may in some instances give the iron reaction. It occurs in granular or rod-shaped masses, both in the cell, and in the intercellular stroma. That melanin is a product of oxidation of its precursor melanogen which occurs as colorless granules in the cell cytoplasm is a generally accepted fact. Hibbert, Schieck, Gilbert and others have shown that unpigmented melanomata become pigmented when exposed to sunlight or through other processes of oxidation. The melanin in the urine in cases of melanuria is manifest only after oxidation of the melanogen.

All intraocular melanomata show, in their development, four stages of growth. The first stage represents the early development of the growth before the onset of secondary glaucoma. The second stage is that of secondary glaucoma. The rise of intraocular pressure is due to one of two causes: (1) a blocking of the normal filtration angle, either by tumor cells or by forward pushing of the lens and iris; (2) by obstruction of the vortex veins by direct pressure of the tumor. The preglaucomatous period may last from one-half to two years, depending upon the degree of malignancy of the growth. During this period there is usually no pain or other symptoms except loss of vision. The glaucomatous period usually lasts for only a few months and is accompanied by pain and symptoms of secondary

inflammation. The third stage is that of extraocular extension, which in the case of flat, diffuse or infiltrating growths may come very early. Melanomata of the iris and ciliary body usually show extraocular extension along the anterior ciliary vessels which perforate the sclera at the limbus. Tumors in the posterior half of the ciliary body and choroid show extraocular extension along the vortex veins which are located at the equator of the globe. Tumors in the posterior half of the choroid show extension along the optic nerve and the posterior ciliary vessels and nerves which perforate the sclera around it.

The fourth stage is that of metastasis. Metastasis may come very early, even before the onset of secondary glaucoma. In other cases the metastasis may come very late. Cases are reported where metastasis has occurred eighteen years after enucleation. Metastasis is always by way of the blood vessels. The neighboring lymphatic glands are never involved. Local recurrence after enucleation is uncommon. In the older literature Parvel reported nine local recurrences in eighty-nine cases. In more recent years the percentage of local recurrences is much less, probably due to earlier diagnosis, *i.e.*, before the onset of extraocular extension.

The most frequent site for metastasis is in the liver. Most cases show, however, multiple metastases involving the liver, lungs, stomach and other viscera. Metastatic melanomata may involve any organ or tissue in the body and quite a few cases of generalized melanosis have been reported. The metastatic growths frequently have little resemblance to the original tumor. The cells may be large, vacuolated and unpigmented, resembling those seen in nephroma or hypernephroma. They may assume the character of epithelial cells or of connective tissue cells, simulating either carcinoma or sarcoma.

I wish to describe a case of malignant melanoma of the choroid in which we were able to make a rather complete pathological study.

The patient, a housewife, aged 54, reported for examination, complaining of gradual loss of vision in the right eye following an injury twenty years previous. For the past three years the right eye has been totally blind. She had had no acute pain but at intervals the eyeball had been red and tender. The left eye was normal with normal vision. About two months ago she noticed a small shot-like lump in the scalp and one in the skin over the ribs on the right side of the chest. These nodules were hard, freely movable, and slightly bluish in color. During the next few weeks

she noticed similar nodules developing in the axillae, groins, and in the skin of the abdomen. She had no cough, no loss in weight, and felt perfectly well, except for the symptoms described above.

Examination of the eye showed injection of the conjunctival and anterior ciliary vessels. The cornea was normal. The iris was thin and atrophic and pushed forward against the cornea, obliterating the anterior chamber. The pupil was irregular and eccentric and showed no reaction to light. The lens was cataractous, preventing an ophthalmoscopic examination. There was no light perception present. Tension was 60 mm. Hg. as compared to 20 mm. Hg. in the left eye. Transillumination of the globe showed the outer half opaque. Examination of the sclera showed a rounded, bulging mass perforating the sclera in the upper and outer portion near the equator. Aside from the skin nodules described above, the general physical examination was negative.

A diagnosis was made of malignant intraocular melanoma with multiple skin metastases. This was confirmed by biopsy of one of the skin nodules and enucleation was done. Microscopic sections of the eyeball showed a large melanotic tumor involving the choroid and ciliary body, and showing extraocular extension, both at the equator, along the vortex veins, and also posteriorly along the optic nerve. Large areas of the tumor were necrotic and showed deep pigmentation. The tumor cells were both round and spindle-shaped.

Six months after the enucleation the patient returned for examination. Her general physical condition was good. The liver was not palpable and there was no weight loss. Examination of the urine for melanogen was negative. The skin nodules had increased in size and new ones formed at various places over the body. The socket of the enucleated eye showed a small, red, fleshy growth which on biopsy proved to be an orbital recurrence. During the following nine months the patient gradually failed; the liver and spleen became enlarged and nodular. Death occurred fifteen months after enucleation. Autopsy showed generalized melanosis involving practically all of the viscera and serous surfaces.

The possible origin of the tumor cells in melanomata of the choroid is a question which has long been discussed. Fuchs believes they have origin in the chromatophores of the external layers of the choroid—the layers of Sattler and Haller. Ribbert agrees with this view and proposes the name chromatophoroma. Knight, working with Broders at the Mayo Clinic, published a paper in 1924 in which she argues that the pigment found in the chromatophores of the choroid is phagocytised by these cells and is not a product of their metabolism. She believes the melanin is a product of the epithelial cells, probably the pigment epithelium of the retina, and that melanotic tumors of the choroid are to be

considered as having their origin from ectoderm cells and should therefore be called melanocarcinoma. Dawson, in his monograph on melanomata, describes thirteen cases of choroidal melanomata. In twelve of these he was convinced that the tumors originated from the chromatophores of the vessel layers of the choroid. In the remaining case, which showed great diversity of structure, he described the tumor as arising from the hexagonal pigment epithelium of the retina. Dawson also agrees with Knight and Broders that the so-called chromatophores of the choroid are derived from the pigment epithelium of the retina and are therefore to be considered ectodermal and not mesodermal in origin.

Ewing, in his treatise on neoplasms, is inclined to the opinion that these melanotic tumors of the uveal tract may arise either from the pigment epithelium or the chromatophores. He is not convinced, however, that the chromatophores are epithelial in origin. In ciliary melanoma he found a splitting off of the heavily pigmented basal epithelial cells.

From a study of the specimens at our disposal it would appear that the epibulbar growths take origin from the basal cells of the conjunctival epithelium similar to the process which occurs in the cutaneous nevi. The melanotic growths in the iris and ciliary body may arise directly from the pigment epithelium, or, as is more frequently the case, from the chromatophores in the vessel layers. The origin of the chromatophores is uncertain, but certainly the large, rounded, heavily pigmented "clump" cells found in the vessel layer of the iris near its pupillary margin are derived from ectoderm. In all of our specimens of choroidal melanomata the tumor cells apparently had their origin from the chromatophores. In no case was the pigment epithelium of the retina disturbed except by secondary invasion of the tumor. The possible origin of choroidal melanoma from congenital epithelial cell nests or "rests" which may become irritated by inflammation or injury cannot be disproven. A history of malignant melanoma developing in an eye long blinded by inflammation or trauma is quite frequent.

#### IRON AND COPPER IN THE DIET

There have developed evidences that certain minerals which occur in small quantities in natural foods enter into the nutritive exchanges of the organisms in ways more important than has heretofore been believed. For many years claims of the biologic significance of a number of such elements have been heard. They are almost inevitable contaminant of foods, so that it has been extremely difficult to determine decisively whether zinc, nickel, cobalt, manganese, copper and others are chance constituents of the animal organism, or whether one or more function in some essential process. Recently attention has been focused on one of these elements by the discovery that copper possesses the property of supplementing iron in forming hemoglobin in

certain types of experimental anemia. Nutritional anemia can apparently be best corrected in several species by the addition of copper as well as iron to the defective rations. There also is considerable evidence that important functions are performed by manganese. Many analyses of foods concerning the mineral content have become available so that the daily intake of these elements may be judged. Wheat bran, blueberries, whole wheat, split peas, and navy beans are rich in manganese. Calf liver, oysters, beef liver, mushrooms, currants and chocolate are rich in copper. Pork liver, beef liver, spinach, lima beans, calf liver, and navy beans are rich in iron. Vegetables and cereals are the chief contributors of iron. Fruits are an important source of all three elements. (Jour. A. M. A., July 18, 1931, p. 180.)

## THE AMERICAN RITE—TONSILLECTOMY\*

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**A**PPROACHING closely in breadth and extent of practice the Jewish rite of circumcision, tonsillectomy on infants and near-infants as carried on in America today will soon be in the lead. Fortunately, like other excesses of by-gone days, it will be just as precipitately repudiated when the pendulum of rational consideration begins its return swing and its enormity of error is realized.

If Mother Nature ever amplified her protest against misdirected surgical interference, it is most forcefully manifested in her almost desperate effort to replace this lymphoid-glandular tissue of which she has been robbed, which is so unmistakably a necessary part of the lymphatic system of defense and probably, too, of the internal secretions in all young mammalian creatures.

The picture, in these little post-tonsillectomized throats, of multiple hypertrophied buds of lymphoid tissue sprouting out from all over the surface of the posterior pharyngeal wall, and the pillow-like masses of lymphoid accumulations in the lateral pharyngeal folds, only too plainly shows Nature's heroic effort to replace this lost tissue. The rapid regeneration of the tiniest islands of follicular tissue left in the tonsillar fossæ and the plica tonsillaris into almost "new tonsils" attests plainly to the proof of the need for this glandular-lymphatic tissue in the throats of these youngsters during infancy and childhood, at least up to the age of puberty, at which age, normally, these lymphoid structures begin to recede in size and importance of function.

The practically unbroken tonsillar ring of the lower animals, comparatively present in humans, also, made up of the lingual tonsils, the faucial tonsils and the nasal tonsils, certainly indicates the importance of the function of these structures. Reports have appeared in the literature of experiments upon lower animals where part of the tonsillar ring has been removed, following which the health of these animals, observed for periods of time, showed marked deterioration,

terminating in severe anemia and marked debility.

Just as certainly as the lower animals, who use their mouths in working, fighting, dressing their wounds and making their toilet, need protection against infection in the oral cavity, so young humans, too, need the same protection during the period of life when everything within reach goes to their mouths.

Every region of the body is protected by a definite localized arrangement of the lymphatic system, and surely the oral cavity can be no exception, where in reality it would seem to be more needed than in any other region of the body.

The indications for tonsillectomy universally accepted are: Hypertrophy with obstruction; prolonged local inflammatory disease in the tonsil, as indicated by continuous cervical gland involvement; glandular dyscrasia, a perverted or hypersecretion of the tonsils which unfavorably affects the child's general ruggedness; and systemic poisoning from focal infection.

Tonsillectomy as a whole problem should be divided sharply into three groups for best consideration, because the indications in these groups are considerably different one from the other.

Group I. Tonsillectomy in infants and near-infants.

Group II. Tonsillectomy in children (past infancy) up to the age of puberty.

Group III. Tonsillectomy in subjects past the age of puberty.

In the last group, especially after adolescence, tonsillectomy is done largely on account of systemic poisoning from focal infection; less so on account of recurring local acute inflammatory disease; least of all on account of hypertrophy with obstruction; and not at all on account of glandular dyscrasia.

In the second group, children (past infancy) up to the age of puberty, tonsillectomy is done largely on account of hypertrophy with obstruction; also on account of glandular dyscrasia,

\*Read before the Minnesota Academy of Ophthalmology and Otolaryngology, Minneapolis, March 13, 1931.



which unfavorably influences the nutrition or growth of the child; less so on account of prolonged local inflammatory disease with cervical gland involvement; and least of all on account of systemic poisoning from focal infection.

In considering the first group (infants and near-infants), let us eliminate practically all of the indications universally accepted for tonsillectomy as a whole and mentioned, also, in considering each of the other groups named.

Systemic poisoning from chronic local and focal infection in the tonsils of infants surely is not to be considered as a probability nor as a reason for tonsillectomy.

Recurring local acute inflammatory disease of the tonsils occurs but rarely in infants as compared with older children, youths or adults. It is, however, a fortunate defensive reaction when it does occur, and to remove these lymphatic first-line fortifications seems to me poor practice.

Hypertrophy of tonsils in infants (that is, real hypertrophy, not merely congested, temporarily swollen tonsils) must, indeed, be a rarity, and the glandular dyscrasia of older childhood (five to ten or twelve years of age) is surely not to be considered as occurring in this group.

The role of the thymus, rapidly terminating after birth, suggests an important part played by tonsil-gland structures as internal secretory organs in developing creatures, and its function in prenatal life probably compares closely with the necessity for glandular-lymphoid-tissue function in youngsters from birth up to puberty. The necessity for the functioning of each seems to be limited, comparatively, to certain respective periods of development, after which periods recession of function is manifested by atrophy, complete in the thymus and relative in the tonsils.

Nor are development and hyperdevelopment of this glandular-lymphoid tissue limited to the oral and nasal surfaces. Other exposed mucous membrane surfaces (namely, the conjunctivæ) frequently show during childhood overdeveloped lymphoid tissue. The so-called follicular conjunctivitis, really lymphoid hyperplasia, is, too, distinctly a condition limited to life prior to puberty.

Tonsillectomy in adults, generally speaking, is seldom done without justification. In the first place it is always considered in connection with some complaint of the patient, either systemic or local, for which he is seeking relief. If a

systemic malady, his case has been gone over thoroughly by his physician. Much thought, usually, has been put forth, possibly by several consultants, and a fair unanimity of opinion reached before he, himself, consents to the recommended procedure. If of a local character, his complaint is nearly always of repeated occurrence sufficiently severe to lead him to a fixed determination to rid himself of such recurrences. As a result, to repeat, seldom is tonsillectomy done in adults without full justification.

In youth the same and corresponding general conditions obtain, and, again, we can almost as certainly say tonsillectomy is seldom done in patients of this age without justification.

When we come, however, to tonsillectomy in children, between the age of infancy and puberty, as a group and in general, no such certainty of justification can be assumed. In the great majority of children at this age, tonsillectomy is done routinely, without much consideration, independent of and indifferent to consultation, with little thought, I think I can safely say, further than to arrangement of time and place, acquiesced in by parents, "following the leader," and for no greater reason than that the child next door has had his tonsils out, and it seems the proper thing to do.

At this age, in cases of glandular dyscrasia, comparable to hyperthyroidism, where the child seems to be held back in nutrition, growth and general ruggedness, no more remarkable improvement and favorable results are accomplished anywhere than by tonsillectomy.

In the occasional cases of systemic poisoning, manifested by chorea, arthritis, and so forth, tonsillectomy also brings relief when the focal point is correctly located.

Tonsillar hypertrophy (that is, real hypertrophy) with obstruction is also an acceptable reason for tonsillectomy in growing children, because such an hypertrophied structure, taking on much of a fibroid or scar-tissue infiltration, is relatively an incompetent gland, and, leading up to subsequent atrophy, affords little of the protective function of the normal or near-normal tonsil.

Unfortunately, much of the so-called hypertrophied tonsils in children of this age is not genuine hypertrophy at all, but is merely congested and swollen tonsils putting up their normal defensive reaction against infection, after

which siege they rapidly return to their normal size and character. To remove such tonsils as these is to deprive the child of the most vital first-line fortification of his lymphatic defense-system in this region. Repeated congestion and swelling of the tonsils, over and over again, do lead to real hypertrophy, with an accompanying decline in the competency of the gland.

We have, then, in this group, two justifiable reasons mainly for tonsillectomy; viz., glandular dyscrasia and genuine hypertrophy with obstruction.

A third indication, too, is to be accepted, and that is in cases of continuous and prolonged involvement of the cervical glands, pointing unmistakably to the presence of infection in the tonsils which those structures seem incapable of overcoming or throwing off.

Here, also, we must differentiate between cervical glands of long-continued involvement and the cervical glands acutely enlarged and swollen only as a part of a temporary reaction against an acute infection in the throat, after the subsidence of which they rapidly recede to their normal or near-normal state. Both the tonsils and the cervical glands under such circumstances are but playing their normal part in such reaction, and certainly should not be condemned. They have participated in a good fight, have been on the winning side, and after recuperation and replenishment are thoroughly capable of participating in the many fights to come.

In the first group (namely, infants and near-infants) tonsillectomy in recent years in America has come to be a procedure of breadth and extent never practiced by men of the nose-and-throat specialty when this work was almost entirely limited to their field. During that time and, in fact, even today tonsil and adenoid surgery in infants and near-infants, universally speaking, is frowned upon by our specialty.

So far as I am familiar with the work of nose-and-throat men locally and abroad, adenectomy in persistent middle-ear cases is about the extent of the occasional surgery done in these little people, and is about all that has any real justification.

Of all the indications for tonsillectomy enumerated above (viz., real hypertrophy, secre-

tory dyscrasia, chronic local disease, or focal infection leading to systemic poisoning) not one is the rule in infants. Nor is the temporary swelling of defensive reaction in the tonsils more or less than a very laudable and beneficial reaction in the presence of infection.

Some of the most severe anginas that we see, with profound systemic toxemia, are in these tonsillectomized throats, where Nature has been robbed of her defense.

So far in the discussion of this subject adenectomy has not been considered, although, in fact, it alone, without tonsillectomy, is usually about all that is justified in infants, and then practically only for the purpose of clearing up persistent middle-ear infection.

Many men, even in our specialty, seem undisposed to think of adenectomy except in connection with tonsillectomy, and for no other good reason than custom and habit. If adenectomy in children, especially in infants, is alone indicated, then poor surgical balance, surely, is shown by doing more.

It is not the purpose of this paper to cover the entire subject of tonsillectomy and its methods, but to arouse consideration and discussion of a matter which I think is soon to bring us embarrassment and chagrin, and which is already of uncomplimentary note in popular publications.\*

I have felt for years, and I know that most of my confreres in this specialty have had the same thought, that tonsillectomy in children past infancy has been tremendously overdone, and that it not only has been of no benefit but has been distinctly disadvantageous to a large proportion of this group. And, further, that tonsillectomy in infants, so much on the increase during the past few years, has seldom been justified; that it has, generally speaking, been distinctly and entirely wrong, and that we should put ourselves on record against it in no uncertain terms.

In this widespread, ill-advised surgical activity, it should be a matter of satisfaction that we, as a specialty, are not responsible for its inauguration, and are not now contributing toward its continuance or increase.

\*Collier's, Feb. 21, 1931; Harper's, February, 1931.

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A SUMMARY OF THE INDICATIONS, TECHNIC AND RESULTS TO  
BE EXPECTED IN THE USE OF BOTH ARTIFICIAL  
AND NATURAL HELIOTHERAPY\*

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**H**ELIOTHERAPY occupies such an important place in the treatment of tuberculosis that a summary of its present status seems warranted. This summary is being prepared as part of a report of a committee of the American Sanatorium Association on the value of modern tuberculosis therapy. For more detailed information its readers are referred to the bibliography.

#### HISTORY

The earliest medical writings contain many references to the use of light in the treatment of disease. The Greeks and Romans constructed solarium in their homes and the Egyptians frequented sandy beaches. This was probably due to the sense of well-being which followed the sunbath rather than to the appreciation of any specific therapeutic properties of light. Oribasius attempted to popularize light in about the 5th Century A. D., and McCollum and Simonds<sup>1</sup> claim that there is evidence of the use of artificial sources of light at about that time. With the exception of an occasional disciple such as Avicenna, whose method formed the basis of our technic, Henry de Moville, Gaddesden and Paracelsus, light therapy appears to have been forgotten until the latter part of the 18th Century, when it was revived by the French, for use in the treatment of arthritis, tuberculous peritonitis and Potts' disease. About 1840 Ollier and Poncet and Bonnet reported good results in the treatment of arthritis and recommended general body radiations. The first use of sunlight in a sanatorium is credited to Richli, who, although he was not a physician, reported surprisingly good results in 1885 on patients treated at Veldes. Finsen, who was the first to study light scientifically, reported his results in the treatment of lupus in 1890. In 1902, Bernhard of St. Moritz, impressed by the success of the local butchers in "curing" their meats in sunlight, exposed suppurating wounds to its rays. His results were so successful that he extended its use

to cases of surgical tuberculosis using general body radiations. In 1903, Rollier began his now famous work at Leysin. It is due to the efforts of these two men that heliotherapy has become so popular. Their followers, among whom we are to be included, use solar therapy by increasing graduated exposures of the body to sunlight in air. Prior, Hyde and LoGrasso have so popularized heliotherapy in this country that all of the more recently constructed sanatoria contain provisions for its use.

The pioneers in artificial light therapy were Finsen and his followers, Reyn and Ernst. Finsen employed local radiation while Reyn and Ernst advocated general body radiation. In England Sir Henry Gauvain employs natural sunlight and seabathing and utilizes the carbon arc and the quartz mercury vapor lamp and the other sources of artificial light.

#### PHYSICAL CHARACTERISTICS OF LIGHT

Before proceeding with the indications and technic and results to be expected from both natural and artificial heliotherapy, I believe a brief discussion of the physical characteristics of the various sources of light, as well as their physiological effects, is warranted.

Light has been defined as an electro-magnetic disturbance of the ether. These disturbances travel through the ether in wave form at a rate of 186,300 miles per second and their frequency varies inversely as the length of the wave. The unit of measurements of the shorter wave is the angstrom unit,  $1/10,000,000$  of a mm., while in the infra-red region the unit is the micron,  $1/1000$  of a mm., and in the radio wave lengths it is the meter. When the disturbances or radiations are arranged according to the wave lengths, they present a definite spectrum (Fig. 1). At one end are the cosmic rays, so short and of such a high frequency that no one has yet been able to define their limits. At the other end of the spectrum are the long radio waves. According to Luckiesh<sup>2</sup> these measurements constitute

\*From the Medical Department, University of Minnesota and Glen Lake Sanatorium.

"a locality in the wave length scale without being definitely fenced," so the figures given mark the approximate upper limit of the various zones. In general, the spectrum consists of a visible

not have the same intensity of sunlight. Greider and Downes<sup>4</sup> have considered the spectral energy curve of noon sunshine in summer and winter for Colorado Springs as representative of moun-

### ELECTRO MAGNETIC SPECTRUM

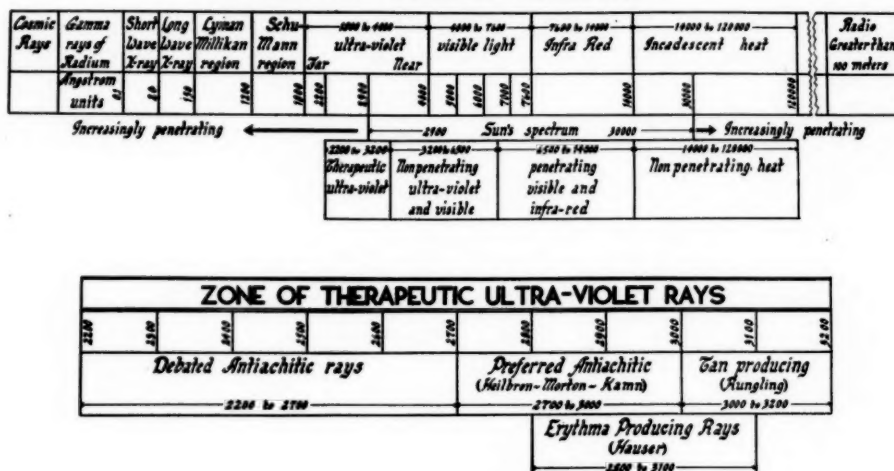


Fig. 1. The Electro Magnetic Spectrum. This was compiled from material gathered from various sources. The measurements given represent zones in the spectrum rather than definite limits. The human organism in its struggle for existence has adapted itself to the rays of the sun's spectrum. This is the zone of moderate penetrability. The rays on either side of the sun's spectrum become increasingly penetrating as they increase or decrease respectively. The shorter rays such as the cosmic or Roentgen are more penetrating than the ultra-violet, visible or infra-red.

portion from the violet to the red of wave lengths from about 3,900 to about 7,600 A. U. flanked on either side by an invisible spectrum which begins with the ultraviolet and infra-reds and includes the other rays mentioned. The violets and ultraviolet are the chemically active rays, the reds and infra-reds being the heat producing rays.

#### THE SUN'S RAYS

The sun's spectrum contains rays from about 2,900 A.U. to about 30,000 A.U., the earth's atmosphere filtering out the others. Therefore, any benefit to be derived from solar radiation must be derived from rays within those limits. From 1 to 5 per cent of the total output of the energy of sunlight is in the ultraviolet rays<sup>3</sup>, that is, in the region from about 2,900 A.U. to about 3,900 A.U., the beginning of the visible rays. This variation depends not only upon the time of day and the season of the year, but also upon the latitude and the altitude and the condition of the atmosphere, that is, whether it is clear or filled with moisture, dust or soot. Thus it is ob-

vious that all localities in the United States contain sunshine, and East Akron, Ohio, as representative of low altitude sunshine (Fig. 2). The average of these four curves is called "Clinical sunshine" or "fall sunshine." It has been suggested that this average be used as a standard for comparison with artificial light.

According to Fabry, as reported by Coblenz<sup>5</sup> and others, the intensity at 2,900 A.U. is only 1/1,000,000 of that at 3,150 A.U. and only 1/40,000,000 of that of the visible spectrum. Coblenz claims that on the clearest day at noon hour in summer in Washington, D. C., the amount of ultraviolet solar radiation useful for preventing rickets (of wave lengths less than 3,100 A. U.) amounts to less than 0.3 per cent of the total incidence solar rays, which decreases to an imperceptible value at sunrise or during cloudy weather<sup>6</sup>. Thus the amount of ultraviolet rays in the sun's spectrum is relatively small. This fact should be considered when selecting the artificial light to be used as a substitute for sunlight.

Diffuse sunlight is particularly intense at the



seacoast and diminishes with increased altitudes. When the sky is covered with clouds and the sun is hidden, diffuse sunlight may still be rich in actinic rays and useful for sun treatment. Be-

absorb the infra-red rays above 14,000 A. U. thus increasing the relative intensity of the ultra-violet rays. Fog, however, will absorb the ultra-violet. Thus the best localities for heliotherapy

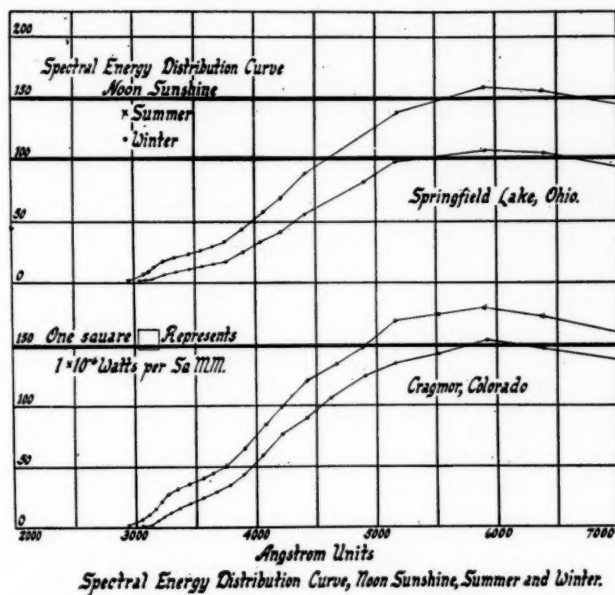


Fig. 2. Spectral energy distribution for mountain and lowland sunshine. Greider and Downes.

tween 10 A. M. and 2 P. M. the intensity of sunlight is maximal. It is at this time of day that the various short wave lengths are most abundant but the high temperature at these hours may be intolerable for sun cure<sup>7</sup>.

The ultraviolet rays are reflected by sand, snow and water, while water and water vapor

are the seacoast, when free from fog, the desert and the mountains where the atmosphere is clear.

#### THE MERCURY ARC LAMP

There are three types of mercury arc lamps now in general use as artificial sources of light. Two of these use a quartz burner which trans-

TABLE I. NOON SUNSHINE INTENSITIES, WATTS  $\times 10^{-7}$  PER SQ. MM.

	Antirachitic ultraviolet 2900-3100	Non-pene- trating ultra-violet and visible 3100-6500	Penetrating red and near infra-red 6500-14000	Non-pene- trating infra-red 14000- 120,000
	A	A	A	A
Springfield Lake, Ohio				
October, 1928.....	1.2	2894	3660	1760
May-June, 1929.....	2.3	3404	3786	1834
December, 1929.....	0.43	2440	3720	1615
Cragmor, Colorado				
November, 1928.....	1.6	3534	4432	1860
June, 1929.....	5.3	4233	4686	2211
January, 1930.....	1.1	3390	4565	1915
"Clinical Sunlight".....	1.4	3214	4045	1810

mits rays down to about 1,850 A.U., and one of these has a special glass bulb or burner which absorbs the rays of less than about 2,800 A.U.

The difference between the two types of lamps

and it is hardly to be expected that these two sources of light will give the same results in all types of treatment."<sup>8,9</sup>

The more recently constructed quartz mercury

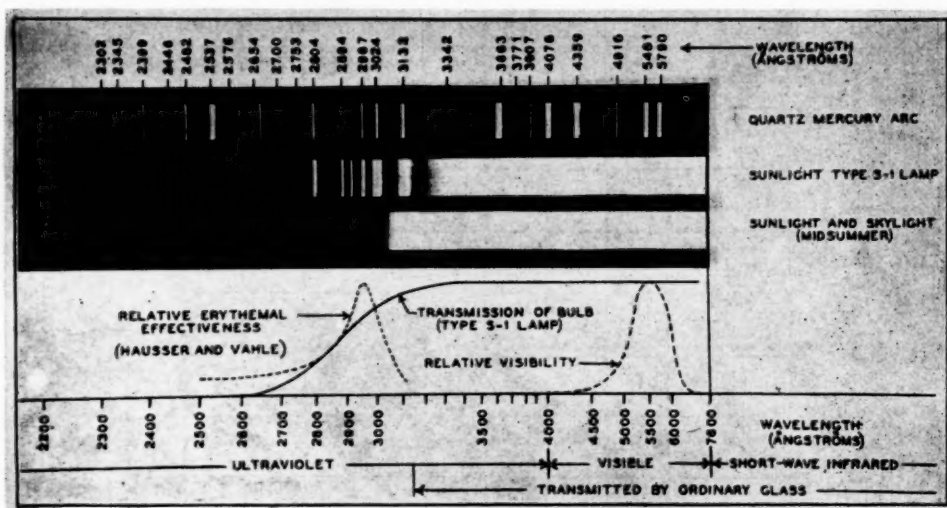


Fig. 3. Spectrum of S-1 lamp compared with that of a quartz mercury arc and sunlight as prepared by Luckiesh.

using a quartz burner is, that in one, both electrodes are of mercury, while in the other, one electrode is of mercury and the other of tungsten. Both of these lamps are made in an air-cooled type for general body treatment and a water-cooled type for local radiation. Their spectrums begins at about 1,850 A.U. with a high proportion of ultraviolet to the total output. According to Coblenz<sup>5</sup>, about 20 per cent of the total radiations are of wave lengths less than those found in natural sunlight (2,900 A.U.). As about<sup>8</sup> two-thirds of all the wave lengths less than 14,000 A.U. are of radiations below about 4,500 A.U., these lamps emit very little infra-reds except from the heated quartz, the electrodes, the supports and the hood. In the tungsten anode type of lamp, some additional infra-red radiations are obtained from this anode. When these two types of lamps are operated on the same energy input, there is very little difference in their ultraviolet output<sup>8,9</sup>. The short ultraviolet below 2,900 A.U. are very irritating but they have strong germicidal properties and should be of great value in treating superficial wounds. "Physically, there is no comparison between this type of radiation and that of the sun

lamps do not age as rapidly as those constructed several years ago.<sup>9</sup> Of the two types of lamps, the one with the tungsten and mercury electrodes seems to age slower than does the lamp with both electrodes of mercury.

Because clear distilled water does not in any degree absorb ultraviolet rays, Kromayer developed a water-cooled quartz mercury vapor lamp which is used very effectively for local applications.

The mercury arc lamp, S-1, with two tungsten electrodes is a combination of a mercury arc between highly incandescent electrodes of tungsten.<sup>10</sup> There is also a tungsten filament which operates in parallel with the mercury arc but at a considerably lower temperature than the electrodes. In this combination the ultraviolet rays from the mercury are supplemented with visible and infra-red rays from the tungsten, thus reducing the proportion of the ultraviolet in relation to the total output as compared with the two types of quartz mercury lamps discussed above. This lamp also uses a special glass bulb which absorbs the rays shorter than about 2800 A.U. and in that particular as well as in the greater proportion of infra-red it is more closely

allied to the sun's spectrum. According to Coblentz,<sup>10</sup> the total intensity at a distance of three feet from the lamp, without the wire mesh cover, is about one-tenth to one-twelfth that of average solar radiation, and about 1.5 per cent of the radiations are of wave lengths of less than 3,130 A.U. The bulb blackens, however, with use due to a deposit on the inside and according to the manufacturers, should be replaced after 300 to 400 hours. Some bulbs, however, have had to be replaced after fifty to one hundred hours. The manufacturer has done this in some cases without any charge. Physically, the spectrum of this lamp is more closely allied to that of the sun than the spectrum from the other types of mercury arc lamps (Fig. 3). Therefore, it should give results more comparable to those obtained from the use of natural sunlight.

#### THE CARBON ARC

The carbon arc is the hottest source of artificial radiation readily obtainable and in this respect it is the closest approach to sunlight.<sup>10</sup> The radiation emitted from the carbon arc depends upon: the size of the electrodes and the metals with which the carbons are impregnated; the direction of the current when direct current is used; and the amount of electricity consumed. The white flame carbon emits relatively few ultraviolet rays of wave lengths shorter than about 2,200 A.U. It emits relatively more of ultraviolet from about 2,900 A.U. to about 3,100 A.U. than does the sun's rays. Also at about 3,890 A.U. it is relatively more intense than sunlight. In the visible portion of the spectrum, however, the sun's rays are more intense. The arc is strong in infra-red radiations of wave lengths longer than about 30,000 A.U. which the atmosphere has filtered out of the sun's rays.

When the carbon arc is covered with a Corex-D chimney which filters out the ultraviolet rays shorter than about 2,900 A.U. and infra-red rays longer than about 40,000 A.U., the white flame carbon emits a light which is the closest approach to natural sunlight we have.<sup>10</sup> Therefore, the results obtained in this type of artificial light should be more comparable to those obtained in natural sunlight, than from any other artificial source of light.

The manufacturer claims that the 60 ampere Eveready Carbon Arc Lamp with a white flame carbon and at proper distance (4 to 6 feet) from

the patient will produce from 1 to 1.5 times the amount of ultraviolet rays of 2,900 to 3,100 A.U. present in "clinical sunlight." At a distance of six feet from this arc the total intensity of radiation is about one-fifth that of clinical sunlight and about one-sixth of one per cent of this radiation is of wave lengths shorter than 3,100 A.U.<sup>11</sup> By varying the distance of the carbon arc lamp from the patient, an intensity approximating "clinical" or "fall" sunshine may be obtained (Fig 4). If brought close enough to the patient, the carbon arc of low amperage may prove as effective as carbon arcs of higher amperage operating at a greater distance. The operating distance\* for a patient undergoing treatment is a matter of trial and depends upon the results desired and the manner of radiation and cannot be determined by radiometric measurements.<sup>5</sup>

#### PHYSIOLOGICAL EFFECTS OF LIGHT

According to the law of Grothus formulated in 1819, light rays must be absorbed in order to be utilized by the body. As the ability of the body to absorb the rays varies with their wave lengths, it is obvious that their physiological effects vary also. The red and near infra-red rays, or the heat producing rays, have the greatest penetrating power. Their physiological effect is the effect of heat such as the production of a hyperemia and a pigmentation and the well known effects of heat on chemical reactions. The visible rays produce heat, light and metabolic changes. The ability of the violet and ultraviolet rays to penetrate the skin decreases as their wave lengths decrease, but the shorter the wave lengths the more readily are they absorbed by the skin. The heat rays through the production of a hyperemia enhance the effect of the vital rays, which is that of a chemical agent.

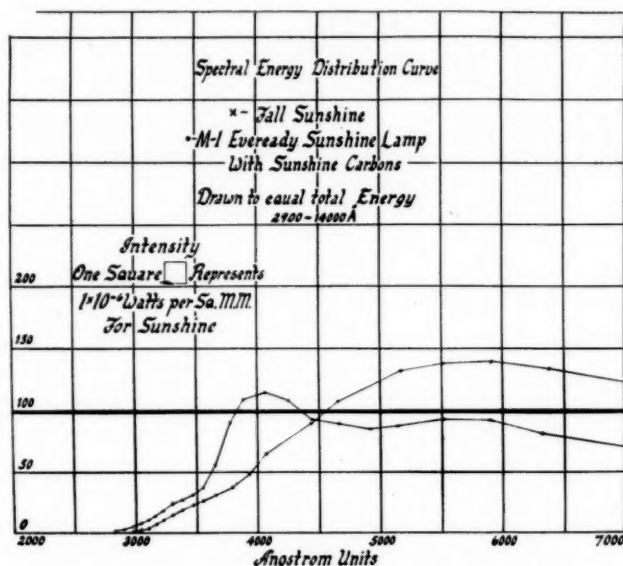
#### THE ACTION OF THE SKIN

The red and infra-red rays below 14,000 A.U. penetrate the skin and produce an immediate erythema which fades rapidly.<sup>3</sup> Those above 14,000 A.U. do not penetrate the skin, but if too intense may cause blistering. There is also a delayed erythema which does not appear for two

\*Those interested in the spectrums of the different carbons, which vary from that of the white flame carbon to one as rich in ultraviolet as that obtained from the mercury arc lamp, can obtain such information either from the National Carbon Company or from the Bureau of Standards, through the publications of Coblentz, a fairly complete bibliography of which is published in his article in the *Journal of American Medical Association* for June 1, 1929, V. 92: 1834-1837.

or more hours. This is due to the shorter ultra-violet rays and may in all probability be a secondary reaction resulting from tissue injury, which, if it has been carried too far, may be accompanied by edema.

light is nature's protective mechanism. The type of pigment varies with the type of radiation used. That from the mercury arc utilizing the shorter radiations is yellowish brown and is not as permanent as that obtained from the rays of



*Spectral Energy Distribution Curve, Fall Sunshine, M-1 Eveready Sunshine Lamp*

Fig. 4. Spectral energy distribution of "clinical sunshine" compared with that of an Eveready carbon arc lamp as prepared by Greider and Downes.<sup>4</sup> It is claimed that while the relative amount of rays from about 2,900 to about 3,100 is some greater for the carbon arc lamp, than at 1 meter the absolute amount of this energy is essentially equal to that in clinical sunshine.

Some claim that nature protects itself against this phenomenon through the formation of pigment or a tanning due to the deposit of melanin in the lower layers of the epidermis. Miescher<sup>12</sup> believes that the increase in the thickness of the stratum corneum, which occurs as a result of

longer wave lengths such as the S-1 mercury arc lamp or the carbon arc or the sunlight. The pigment from these latter sources is reddish or blackish-brown, depending upon the degree of the pigmentation. The exact effect and purpose of this phenomenon is not clearly understood. In

TABLE II. COMPARISON OF SUN AND MODEL M-1 SUNSHINE LAMP; ENERGY EXPRESSED IN WATTS  $\times 10^{-7}$  PER SQ. MM.

	Anti-rachitic ultra-violet 2900-3100	Non-penetrating ultra-violet and visible 3100-6500	Penetrating red and near infra-red 6500-14000	Non-penetrating infra-red 14000-120,000	Total
	A	A	A	A	
Noon Fall Sunshine.....	1.4	3214	4045	1810	9070
M-1 Eveready Sunshine Lamp at 1 Meter Distance.....	1.7	458	620	780	1860
Percentage Distribution 2900-14000 A.					
Noon Fall Sunshine.....	0.019	44.3	55.6		7260
M-1 Eveready Sunshine Lamp..	0.16	42.5	57.3		1080



addition to protecting the body against over-doses of ultraviolet rays, it may sensitize the skin so that more of the visible rays are absorbed. The rays between about 2,900 and about 3,200 A.U. produce an erythema and a dilatation of the capillaries, accompanied by a rich brown pigment. Uhlman<sup>13</sup> believes while the same wave length can produce both pigmentation and hyperemia that pigmentation can be produced independently of hyperemia, i.e., by radiation of a different wave length than those which produce hyperemia. In spite of this the clinician must not ignore hyperemia in determining the effect of pigmentation. Rollier<sup>14</sup> and his followers believe that pigmentation has a great deal to do with the success of the treatment and can be taken as an indication of extent of the healing. We have found in over nine years of experience with heliotherapy that the patients who are well tanned have generally made the most improvement. However, it is well known that patients who have failed to tan have occasionally recovered while those who have developed marked pigmentation have occasionally failed to heal. Luckiesh<sup>15</sup> claims that tanning should be taken as an indication of outdoor life rather than as a measure of health, and conversely that pallor is an indication of indoor life rather than of illness.

The normal physiological function of the skin seems to be increased in light therapy. Following an erythema dose of light there is a transitory increased resistance to staphylococcus, pneumococcus and streptococcus infections. After pigmentation occurs this increased resistance to infection is more permanent. Recent work by Eidinow and Hill indicates that other wave lengths than the anti-rachitic ultraviolet may also play an important part in this phenomenon.<sup>16</sup> Tanned skin is soft and velvety and presents a marked contrast to the toneless, flabby, cold skin of the pale individual. The value of light therapy is increased when it is supplemented by the tonic effect of moving air, which acts directly upon the vasomotor system causing an alternate dilatation and contraction of the skin capillaries. Under such conditions there is an increase in the metabolic rate and mineral metabolism. There is a marked increase in muscular tone which accompanies the use of light therapy and may be in part due to this massaging effect of the moving air.

Cholesterol, which is found in large quantities

in the skin, contains ergosterol as an impurity. This is activated chemically by the ultraviolet rays resulting in the formation of vitamin D. Thus part of the beneficial effects of light therapy is to be found in the results which are characteristic of vitamin D. The shorter ultraviolet rays from about 2,200 to about 2,700 A.U., which occur in artificial sources of light, possess great bactericidal properties but they are very irritating and destructive of protoplasm. It is possible also that the products resulting from such destruction may be harmful and that these shorter rays may therefore partially neutralize the effects of the longer rays, (about 2,700 to 3,100 A.U.). Therefore, Coblenz and Starr,<sup>18</sup> quoting Heilbron, Kamm and Morton, and Bills, Honeywell, and Cox, believe that the destructive properties of these short rays is great enough to destroy vitamin D, and so recommend that screens which filter out the ultraviolet rays below about 2,900 A.U. be used with all artificial sources of light. More recently Marshall and Knudson<sup>17</sup> have studied the formation of vitamin D at wave lengths of 2,536 A.U. and 2,800 A.U. They conclude that the formation of vitamin D is in direct proportion to the light quanta absorbed and is independent of the wave length. Therefore, if the time of exposure is so adjusted that the amount of light absorbed at the various wave lengths is the same, the same amount of vitamin D is formed. In any event, the period of treatment with the artificial sources of light containing these short rays is measured in seconds and minutes rather than in minutes and hours as is the treatment with sunlight.

#### THE PHYSIOLOGICAL EFFECT UPON THE BLOOD STREAM

The action of the reds and infra-reds below 14,000 A.U. and the violet and the near ultraviolet rays which penetrate the skin and are absorbed by the blood stream, is very complex. It is thought to be in part a photochemical<sup>9</sup> reaction which manifests itself locally and also on distant tissues and organs and for some time after radiation has ceased. When the light treatment is carried too far, its action is destructive rather than stimulative. The heat rays may increase the alkalinity of the blood and can raise the temperature of the blood 3° C. without disturbing bodily temperature. The calcium content of the blood

is also increased due probably to the ultraviolet rays.

Basal metabolism is increased under light therapy, but the increase may be due mainly to the moving air. Due to the increased activity of the skin, elimination is increased, resulting in a reduction of blood urea nitrogen and an improvement in nutrition. There is a slight transitory lowering of blood pressure. The pulse rate shows an initial rise which subsequently drops to normal or below unless the treatment has been too prolonged. There is also an immediate rise in bodily temperature which drops to within one degree of normal or to normal shortly after the radiation has ceased.

#### INDICATIONS FOR HELIOTHERAPY

Light therapy is a popular but potent therapeutic agent which, unless carefully supervised, will do untold harm. It should not be considered as a cure-all nor is it nearly as effective when used alone as when combined with other accepted forms of treatment. In the words of Edgar Mayer<sup>3</sup>, "to believe that sunlight or artificial sources of light will cure all forms of surgical tuberculosis, to be unduly optimistic about this treatment and to consider it a specific form of treatment, to use it without sound medical guidance and adequate equipment and finally to employ it to the exclusion of rest and hygienic regimen, eliminating orthopedic measures or the occasional necessary surgical intervention in bone and joint tuberculosis, is bound eventually to dishearten many sufferers and to bring discredit on an otherwise desirable method of treatment."

Whether artificial or natural light is indicated, will depend upon the season of the year, the condition of the atmosphere, the sources of light available as well as the type of lesion to be treated and the condition of the patient.

#### SEASON OF THE YEAR

In the temperate zone general solar radiation is indicated during the summer whenever it is available. Because climatic conditions make this impractical in winter and because window glass transmits only 1 to 2 per cent of the available rays at 3130 A.U., the advisability of using special window glass for indoor radiations is raised. As the winter sun is poor in ultraviolet rays, it is obvious that if such a glass is to have any value its transparency should be high.

Therefore, in 1928, Coblenz<sup>18</sup> recommended that after complete solarization such glasses should transmit at least 25 per cent of the available rays at 3020 A.U. Due to more recent investigations<sup>19</sup> he now believes that a transmission of "45 to 50 per cent would be more nearly in agreement with physiological observations" and recommends that the minimum specifications of such glasses be raised to 35 per cent transparency at 3020 A.U. He adds very succinctly that when such a glass is needed the best is none too good and that one cannot afford to run the risk of using a glass of doubtful effectiveness. Dust may reduce the transmissibility of these glasses by 30 to 40 per cent.

Coblenz<sup>7</sup> and Starr's recent report<sup>6</sup> on the transmissibility of the various glasses marked prior to February 1, 1929, is very enlightening. They conclude that in thicknesses of 2.3 mm. these glasses may, after complete solarization, be divided into six groups according to their transmissive properties at 3020 A.U., as follows:

- (a) Common window glass and quartzlite less than 1 per cent.
- (b) Vitaglass, Sanalux and Renovic, about 25 per cent.
- (c) Holviglass, Sunlit and Sendlinger's ultraviolet glass 35 to 40 per cent.
- (d) Helioglass, Uviol-Jena, and Neuglas, 45 to 50 per cent.
- (e) Corex-D glass 60 to 65 per cent.
- (f) Corex-G981FF<sup>2</sup> and Quartz glass 80 to 90 per cent.

Because of the decrease in intensity in the ultraviolet rays in the wave lengths from about 2900 to about 3050 during the winter time, one cannot but wonder whether better results would not be obtained from artificial sources of light during these months than from the sun as it is transmitted through these special glasses.

#### CONDITION OF THE ATMOSPHERE

Clear atmosphere transmits ultra-violet rays well, but fog, dust, and smoke interfere tremendously with their transmission. In general, more of the ultraviolet rays are available throughout a greater portion of the year in the tropics than they are anywhere else. In spite of this, due to atmosphere conditions Manila has a lower percentage (51) of the theoretical sunshine than Chicago (57) or New York (56) while Denver or Santa Fe has a still larger percentage (69 and

76 respectively).<sup>7</sup> This relationship varies, of course, with the season and with the year.

#### AVAILABLE SOURCES OF LIGHT

When sunlight is not available, some sort of artificial light is indicated. Because the spec-

light. When this source of light is used with a suitable fan to secure the proper circulation of air, the following criticism of Mayer's<sup>20</sup> concerning irradiation with artificial light loses much of its force: "Irradiations with artificial light as ordinarily employed indoors lacks some appar-

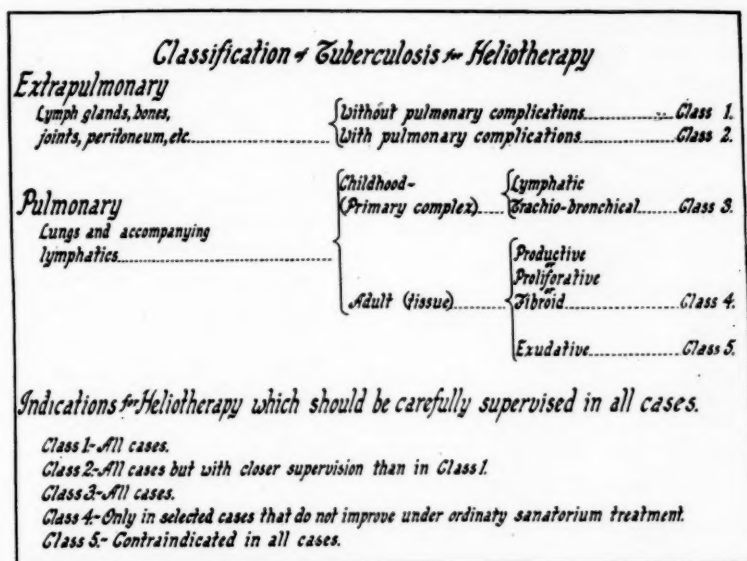


Fig. 5. Slight Modification of Watson's Classification. If the general rules of this classification are followed, much sorrow and many disappointments will be avoided.

trum of the quartz mercury arc differs so markedly from that of the sun, it is not the source of choice as a substitute for general sunlight irradiations. This type of artificial light should be reserved for those conditions where ultraviolet rays without heat are desired and for special conditions, such as superficial areas of tuberculosis or intestinal tuberculosis. The water cooled quartz light is indicated for local suppurating tuberculosis, draining sinuses, tuberculous otitis media, tuberculous laryngitis and allied conditions. As the spectrum of the S-1 lamp more closely approximates that of sunlight, it should have a wider range of usefulness than the quartz mercury arc. However, the bulb blackens with use and has to be replaced frequently. The spectrum of the carbon arc lamp with the corex-D filter and the white flame carbon, more closely resembles that of natural sunlight than that of any other artificial source of light. Moreover, it is always of the same intensity and does not deteriorate with use. Therefore, it is the artificial light of choice as a substitute for natural sun-

ently important accompaniment of outdoor solar exposure, such as constantly moving fresh air with its affect produced through the skin and respiration and the uniform warming of the whole cutaneous surface with its production of a sense of stimulation followed by comfort, well-being and relaxation."

#### TYPE OF LESION AND CONDITION OF PATIENT

The type of lesion and the condition of the patient will be discussed together. Figure 5 represents a slight modification of an outline of the indications for heliotherapy according to the type of tuberculosis as prepared by Watson. If the general rules of the outline are followed much harm and many disappointments will be avoided. Classes 1 and 2 include tuberculosis of the skin, the superficial glands, the bones and joints, the genito-urinary tract, the peritoneum, the intestinal tract, the middle ear, the larynx, the eyes, as well as the anus and the lower rectum. In outlining the indications for heliotherapy in extra-pulmonary tuberculosis, these

two groups will be considered together as the pulmonary focus generally improves with the improvement in the extra-pulmonary lesion. Therefore, a pulmonary complication is an indication for closer supervision rather than a contraindication.

General body radiations in the sunlight in accordance with Rollier's schedule is indicated in all of these cases except the acute progressive type. This should be supplemented in the presence of ulcers, draining sinuses or fistulae by the use of Thezac Porsmeur lens. This is a bi-convex lens with a diameter of 12 inches and a focal point of 72 inches.<sup>21</sup>

When sunlight is not available, artificial light should be used. In certain instances, local applications of light from artificial sources are indicated in addition to general solar radiations.

Tuberculosis of the skin in this country does not present the same problem that it does in Europe. It is usually a local manifestation of a systemic disease and responds very well to heliotherapy. The artificial sources of light emitting rays of short radiations may be of special value in this particular type of tuberculosis.

In tuberculosis of the superficial lymph nodes, general body radiations in sunlight plus local X-ray treatments are indicated in all cases, even where softening and sinus formation is present. When sunlight is not available, artificial light is indicated.

Heliotherapy, combined with good orthopedic treatment, including orthopedic appliances and the judicious use of surgery in adults is indicated in bone and joint tuberculosis. Rollier reports excellent results in bone and joint tuberculosis with heliotherapy and the use of orthopedic appliances but without surgical intervention except in rare instances. His results, I believe, are due to a meticulous attention to the details of the treatment and to the fact that heliotherapy can be carried out over a longer period of the year at Leysin than it can in Minnesota. Petter believes<sup>22</sup> that such conservative treatment, that is, heliotherapy plus orthopedic appliances but without surgery should be limited to the early cases of joint tuberculosis where there has been no destruction of bone and no erosion of cartilage. In such cases, a functioning joint may be secured. When bone destruction has occurred, the time required for "a cure" with heliotherapy is greatly increased, and the possibility of a relapse

in the case of a functioning joint is greater than with an ankylosed one. Both of these factors, that is, the length of treatment and the possibility of relapses are of prime importance to the patient and to the community which is supporting him during his period of convalescence. Hence, surgery, which will shorten the period of treatment and reduce the possibility of relapse through the production of an ankylosed joint, is indicated at the proper time. This, in most instances, is not as soon as a diagnosis is made, but is only after the process has become quiescent under the use of bed rest, orthopedic appliances and heliotherapy. In such instances surgery is not considered a cure-all, but rather a permanent splint which, by increasing the rest of the diseased part, protects and enhances the healing already secured. Postoperative convalescence can be materially reduced through the use of heliotherapy. Heliotherapy is valuable in the treatment of sinus and abscess formations.

In children, heliotherapy plus rest and good orthopedic sense will produce astonishing results. Surgery is to be used only as a last resort because it is so likely to interfere with the growth of the child.

In genito-urinary tuberculosis general solar therapy with artificial light therapy as a substitute is indicated, either as a curative, palliative or postoperative measure. As renal tuberculosis is considered to be a blood-borne metastatic infection, it would seem that it must be bilateral at first.<sup>23</sup> In unilateral renal tuberculosis, then, the process must have healed in one kidney while it progressed in the other. Thomas and Kinsella, as a result of a study of genito-urinary tuberculosis carried on at Glen Lake Sanatorium over a period of years, believe that early renal tuberculosis heals. This is in accordance with the conclusions of Medlar<sup>26</sup> as a result of a study of 100,000 microscopic sections of the kidney. In such cases, heliotherapy combined with rest and other factors of sanatorium regimen is the treatment of choice; however, when unilateral renal tuberculosis has gone far enough to produce an ulceration into the kidney pelvis which can be demonstrated on a pyelogram, or to definitely impair the function of the kidney, a nephrectomy is indicated.<sup>24, 25</sup> In such cases heliotherapy is indicated to prepare the patient for the operation and is the postoperative treatment of choice. In bilateral renal tuberculosis,



surgery is contraindicated except in certain selected cases when it is to be used as a palliative measure. In such cases heliotherapy is indicated, and in many instances excellent clinical results are reported, including even the disappearance of tubercle bacilli from the urine. It is rather commonly believed, however, that sooner or later these lesions will relapse.

Genital tuberculosis is usually secondary to a renal infection, although occasionally it is apparently a blood-borne infection from some other focus than the kidney. Therefore, in all cases of genital tuberculosis a thorough search should be made for a renal focus, and when found, this should be removed. Heliotherapy is indicated in all cases of epididymitis and in the early cases, may be sufficient to produce a cure. When it does not, an epididymectomy is indicated. With the urinary focus removed and the external evidence of genital tuberculosis properly treated, the lesion in the bladder, the prostate or seminal vesicle usually heals promptly under heliotherapy.

Sunlight therapy combined with local applications of artificial light is indicated in tuberculosis of the intestinal tract. Here the influence of light upon the absorption of calcium from the intestinal tract seems to have a direct bearing upon the cure of the intestinal tuberculosis.

Tuberculosis of the peritoneum is usually a secondary manifestation of a tuberculous lesion in the abdominal cavity. General solar irradiation with artificial light therapy as a substitute is indicated in this type of tuberculosis. Under such treatment there is often a marked reduction in symptoms and local signs resulting in a clinical cure. When the original focus happens to be a fallopian tube or an appendix there is much less possibility of a future relapse if these organs are removed than if they are not. So in certain conditions, heliotherapy should be supplemented by surgery.

General body radiations of natural sunlight are indicated in tuberculosis of the ear, the eyes, the larynx, as well as ulcerations of the anus and lower rectum, supplemented, except in tuberculosis of the eye, by local application of the water-cooled quartz mercury vapor lamp. Heliotherapy under such conditions, combined with the other forms of sanatorium treatment, including surgery in connection with ulceration of the

anus and perirectal abscess and fistula in ano, gives excellent therapeutic results.<sup>27, 28</sup>

In Class 3, general solar radiations supplemented by artificial light for use in cloudy weather and when natural sunlight is not available give excellent clinical results. Because the acute phase of this particular type of tuberculosis usually clears up rather promptly, nothing is to be gained in the use of heliotherapy until it has quieted down. Heliotherapy properly carried out will give the child the maximum assurance against further disability from tuberculous disease.

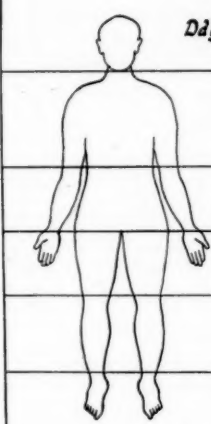
Class 4. LoGrasso<sup>29</sup> believes that even cases of adult tuberculosis with moderate fever are suitable for heliotherapy. In our experience it would seem better to postpone heliotherapy in such cases until strict bed rest over a prolonged period of time has failed to produce the desired results. Many patients who cannot tolerate natural heliotherapy in the beginning, can do so after a course of artificial light therapy.

When there is no fever present, general body radiation in the sunlight, either supplemented by or preceded by radiations from artificial light is indicated in selected cases. When such cases are properly selected and heliotherapy properly supervised, hemoptysis, miliary tuberculosis and pulmonary spreads are not encountered any more often than under ordinary sanatorium treatment. When a special therapeutic agent is used and spreads are encountered, one is apt to attribute the spread to the therapeutic agent and forget that tuberculosis is a relapsing disease and that there will be a certain proportion of relapses no matter what type of treatment is used. In general, the most suitable cases for heliotherapy in Class 4 are those which have become stationary under the ordinary forms of sanatorium treatment and which still have a fairly large amount of tuberculous pathology. The aim of heliotherapy in such cases is, of course, to clear up as much of the pathological picture as possible in order to reduce the possibility of future relapses. I can see no indication for heliotherapy in Class 4 when the patient is progressing satisfactorily under the ordinary forms of sanatorium treatment.

Tuberculous pleurisy with effusion, while it is usually due to an underlying pulmonary focus, often clears with the aid of heliotherapy. There-

fore, every case of tuberculous pleurisy with effusion, unless accompanied by the exudative type of tuberculosis, should have heliotherapy. This measure is very effective in the prevention and even in the treatment of a tuberculous empyema.

ualization are of greater importance. It would hardly be an exaggeration to say that it is on the initial period, that of acclimatization and adaption, that the eventual success of the treatment depends. The manner in which the patient

	Days	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th

book, "Heliotherapy,"<sup>21</sup> therefore it will not be repeated in this summary. In brief, his plan is to divide the body into five zones. The time of exposure is gradually increased as well as the zone till the entire body, with the exception of the head, is receiving a total of two to four hours' radiation a day. The maximum amount of radiation will vary with the atmospheric conditions, the individual patient, and the individual therapist. Some physicians advocate a single exposure of from two to four hours a day, while others prefer to have the period of irradiation broken into exposures of fifteen to thirty minutes front and back, followed by a short rest of fifteen to thirty minutes or more. This procedure is repeated as often as is necessary to secure the desired number of minutes exposure for that day.

In planning solar radiations one should bear in mind that the ultra-violet intensity of the sun's rays is greatest from 10 A. M. to 2 P. M., decreasing to an imperceptible value at sunrise and sunset and in cloudy weather. However, the heat of the day may make long exposures during that period inadvisable and then one is forced to choose between giving solar radiations at less desirable times of the day or of decreasing the time of exposure. If other hours of the day are selected, the patient will, at least, receive the benefit of moving air and heat, with the well known effect of this combination upon general body metabolism and function. By combining short periods from both the best time of day and less desirable times, a longer period of solar radiation may be obtained with greater benefit to the patient.

Our maximum exposure for the average patient during the summer of 1930 was two hours per day, either from 10 A. M. to 2 P. M., or one hour in that period and one hour earlier in the morning, depending upon the manner in which the patient reacted to light. The maximum exposure at one time was a half hour front and back, followed by a rest of at least a half hour.

Immediately after an exposure to the sun, there is generally an increase in bodily temperature which, if it is due to the normal physiological effect of heat, will drop to almost normal within a half hour after the treatment has been terminated. If it does not, then the dose of light should be reduced. We have had patients who could only take one minute of solar exposure at

the beginning of treatment, but who gradually became acclimated to the sun's rays and could tolerate large doses of heliotherapy and finally progressed favorably. The pulse rate is likewise elevated after radiations but it too should



Fig. 7. Thezac Porsmeur lens.

fall to approximately normal within a half hour after exposures have been terminated. Thus the body temperature and pulse reaction plus the general condition of the patient serve as important checks on the progress of the treatment. Therefore, it is necessary that they should have been observed for some time before treatment is commenced in order to determine the individual normal.

The technic for the use of the Thezac Porsmeur lens in general is as follows: The lens is focused over the site of the lesion so as to obtain a circle of light not less than seven inches in diameter. The treatment is usually started at five minutes and is gradually increased till a maximum of thirty minutes is reached. This may be repeated once during the day if desired.<sup>21</sup> Here also individualization is necessary and the exact size of the circle, the initial period of treatment, the rate of increase and the maximum time of treatment are a matter of trial and judgment. They will vary with the lesion, the condition of the patient and the therapist (Fig. 7).

#### DOSAGE OF LIGHT

The dosage of light varies with the skin reactions desired. Some heliotherapists prefer an erythema only; others an erythema and a pigmentation. Rollier<sup>22</sup> believes that a fairly close parallelism exists between pigmentation and a favorable prognosis. We prefer a ruddy erythema with a tan bordering on a mahogany rather than a chocolate brown. Eidinow and Hill, as reported by Mayer,<sup>3</sup> aim at a mild

erythema reaction with each dose applied. To secure this they use a source of light with a great intensity of ultraviolet energy and avoid overheating the body by using short and intense exposures. When desquamation of skin occurs,

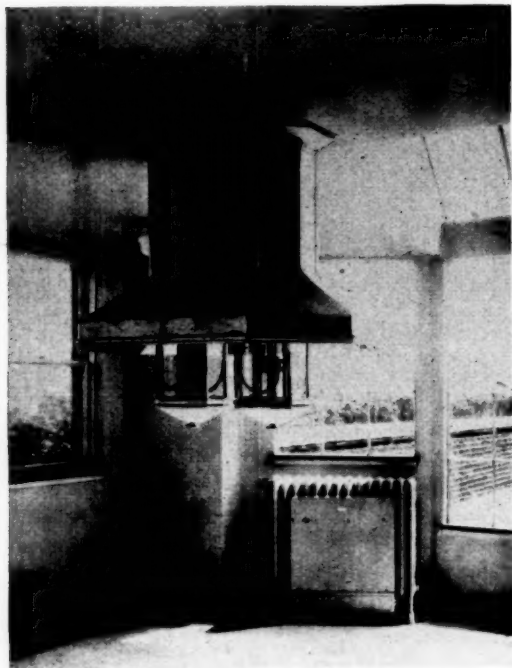


Fig. 8. 60 Ampere Twin Arch Carbon Arc lamp with the Corex-D filter used by Dr. Bosworth.

treatments are interrupted until it ceases. When the skin no longer reacts to the mercury quartz light, the long flame carbon arc is used, later changing to carbons impregnated by various metals. Their method requires only fifteen minutes maximum radiation front and back in contrast to the Finsen method where a two hour exposure of artificial light is the rule.

With a new air-cooled quartz mercury light, Mayer<sup>3</sup> on a purely empirical basis begins with a three minute exposure at a distance of thirty-six inches from the body. He applies two exposures in front and two behind and a fifth one over the area of disease. Exposures are increased by one minute a day until twenty minutes over each area "front and back on all five parts is given." This makes a total exposure of 100 or more minutes. When the twenty minute period over each area is reached, the quartz burner is then lowered about one inch every day

until it is eighteen inches from the skin. As the lamp ages the length of the exposures can be increased. The room temperature is maintained at about 70° F. and moving air provided by means of proper ventilation. When necessary, heat is added. In addition to general body exposures with the air-cooled mercury vapor light, local applications of the water-cooled mercury vapor light are used in superficial forms of tuberculosis.

Because of a large number of patients to be treated, we ray the entire body at one exposure progressing in the manner outlined by Mayer, thus reducing the time required for a treatment of each patient from 100 minutes to forty minutes. This enables a larger number of patients to be treated per lamp per day than the other method.

The technic in the use of the water-cooled quartz mercury lamp varies also with the lesion to be treated and the therapist. Some physicians prefer to radiate patients every day with very small doses while others use larger doses and only radiate once or twice a week. The results obtained with either method are about the same. In general, the exposure with this lamp is measured in seconds as compared with minutes for the air-cooled lamp.

The Finsen group using the carbon arc begin with a fifteen minute radiation, front and back, and then increase the radiation fifteen minutes per day front and back until exposures of two hours daily are reached. The distance from the lamp varies with the heat tolerance of the individual. The treatment is frequently accompanied by sweating and is often terminated with a sponge bath. Additional local exposures are made when possible. When carbons are impregnated by various metals, different types of rays are emitted and the amount of radiation used depends upon the skin erythema desired and the general constitutional reaction of the patient to light therapy. With a 90 ampere Schwartz carbon arc light, beginning exposures are usually limited to half a minute with perhaps the maximum exposure of thirty minutes.<sup>3</sup> With the 60 ampere Eveready carbon arc lamp with a Corex-D filter (Fig. 8) and at a distance of 55 to 68 inches from the patient, Bosworth<sup>3a</sup> recommends that the body be zoned as it is for solar radiations and that exposures be gradually increased as they are under light therapy. However, when



the chest has been exposed five minutes, he then recommends that general body radiation be limited to five minutes, front and back, increasing five minutes a day front and back until thirty minutes exposure anterior and posterior have been reached.

It is understood that these are merely suggestions for the technic of the ordinary exposures and that each patient represents an individual problem. An over-exposure to either sunlight or artificial light will result in tissue injury rather than in stimulation. This injurious reaction is usually manifested by cutaneous reactions such as blistering, intense burning and systemic reactions, such as fatigue and an increase in the pulse and temperature rate which persists. This last reaction is probably due to an intense focal reaction similar to the focal reaction produced from an over-dose of tuberculin. Therefore, great care must be exercised to see that the individual does not receive a greater amount of radiation than he can tolerate. In some instances it may be advisable to radiate the patient every day but to reduce the length of exposure, and in others to radiate the patient only every other day. In all instances, individualization is necessary and the physician is to be guided chiefly by the skin reaction and the general reaction of the patient to light therapy.

#### RESULTS

After nine years experience in heliotherapy, both natural and artificial, we agree with those who believe that where general body radiations are indicated, the best results will be obtained from natural sunlight. We have had ample opportunity to observe that in the fall, at the end of a summer's sun, our patients are in much better condition than they are in the following spring after several months of quartz mercury radiation. This, of course, is to be expected because as Coblenz<sup>8</sup> states, "physically there is no comparison between this type of radiation and that of the sun and it is hardly to be expected that these two sources of light will give the same results in all types of treatment." As the white flame carbon arc with a Corex-D filter emits a source of light which is more like sunlight than that obtained from any other artificial source, it is natural to expect the results from this type of lamp to be more similar to those ob-

tained from sunlight than those obtained from any other type of artificial light.

The results to be expected in groups 1 and 2 vary, of course, with the type, extent and severity of the extra-pulmonary lesions and the pulmonary complications. Excellent results with natural and artificial heliotherapy, using both general and local radiations, have been obtained in tuberculosis of the skin. Tuberculosis of the superficial glands, as a rule, responds very well to general and local radiations with sun and artificial sources of light. Local X-ray treatments increase fibrosis and reduce the period of treatment.

In very early cases of bone and joint tuberculosis, before bone destruction or erosion of cartilage has occurred, good results can be obtained from heliotherapy plus good orthopedic sense, if the treatment is continued long enough. Many of such patients will have a functioning joint. If the process has gone on to bone destruction or erosion of the cartilage, a more permanent result can be obtained as well as the length of treatment reduced if surgery is added at the proper time. In such cases an ankylosed joint results.

In extremely early cases of renal tuberculosis, before the lesion has ulcerated into the pelvis, or the function of the kidney impaired, good results may be obtained with heliotherapy combined with bed rest. In unilateral lesions where there is ulceration into the kidney pelvis, heliotherapy, before and after nephrectomy, combined with bed rest will improve the results. In bilateral cases of renal tuberculosis, heliotherapy is only palliative but often produces surprisingly good clinical results, even including the disappearance of tubercle bacilli from the urine. Sooner or later most of these patients relapse. Genital tuberculosis is usually secondary to a renal infection although it can occur without it. When the renal focus is removed and the external evidence of genital tuberculosis, such as epididymitis is properly treated, including the use of heliotherapy, the lesions in the bladder, prostate and seminal vesicle usually heal rather promptly under heliotherapy, plus other factors of sanatorium regimen.

Tuberculosis of the peritoneum does unusually well under heliotherapy. When the focus is removed later, there is very little possibility of recurrence of the disease.

Intestinal tuberculosis does very well under general heliotherapy supplemented by local applications with the air-cooled mercury lamp and a suitable diet. Whether carbon arc lamps with a Corex-D filter will prove more valuable in this type of lesion or not can only be determined through more study.

Tuberculosis of the middle ear and the larynx give excellent results under general solar radiations plus local radiations with the water-cooled quartz mercury light.

Tuberculosis of the anus and lower rectum give good results when general solar radiations are combined with adequate surgery at the proper time.

In pulmonary tuberculosis, group 3, the results to be obtained from natural and artificial sources of sunlight using general body radiations are excellent and surpass those obtained in any other form of treatment.

In group 4 the results in selected cases with properly supervised heliotherapy, both natural and artificial, are good. We have been very fortunate in having many cases go on to more complete fibrosis under this type of treatment than when the ordinary sanatorium treatment was used.

As heliotherapy is contra-indicated in group 5, only poor results can be expected.

Appreciation is due Dr. Wilhelm Strenstrom, Associate Professor of Biophysics, University of Minnesota, Minneapolis, for valuable criticism of that portion of this article which deals with the physical characteristics and physiological effects of light.

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## IMPAIRMENT OF VISION FOLLOWING HEAD INJURY\*

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A NUMBER of factors have combined, during the past two decades, to bring about a considerable increase in the relative number of traumatic cases encountered in surgical practice.

Modern industry provides its share of these, and traffic hazards, since the advent of the automobile, have greatly increased the incidence of injuries, and given rise to a relative as well as an actual increase in the number of traumatisms involving the head. About 75 per cent of individuals who have sustained head injuries of any consequence complain afterward of visual disturbances. These may comprise anything from a slight, transient obscuration of sight to complete blindness.

Naturally these sequelæ frequently form the basis for claims for compensation or damages. It devolves upon the examining surgeon to determine the exact nature and extent of the loss of visual function, to decide whether the existing impairment is due in part or entirely to the particular injury in question, and to exclude malingering.

Injury to the visual mechanism manifests itself in various ways. Thus we may encounter in these patients:

1. Impairment of central vision.
2. Defects in the peripheral fields of vision.
3. Impairment or loss of function of the cortical centers or association fibers, causing conceptual blindness (mind blindness or object blindness) in which the patient can see objects, but fails to recognize them for what they are.
4. Loss of ability to distinguish colors.
5. Motor derangements, including ptosis, paralysis of the extrinsic ocular muscles, interference with the normal pupillary reactions, loss of accommodative power, impairment of conjugate ocular movements, etc.
6. Nystagmus.
7. Purely psychic affections of the sight, such as occur in hysteria, traumatic neurasthenia, etc.

In the trial of cases involving litigation over the alleged effects of head injuries great stress

is always laid upon the presence or absence of demonstrable skull fracture, although it is an obvious and well known fact that this is altogether secondary in importance to the question of the nature and extent of the injury to the brain. Extensive fracture of the skull may be present in cases in which there are no subsequent evidences of any brain trauma of consequence, and there are, of course, many cases of serious, and even fatal, injury in which there has been no loss of osseous continuity. For instance, those cases of fatal head trauma in which the only autopsy findings are multiple punctate hemorrhages into the deeper structures of the brain, seem to be observed only in the absence of skull fracture.

Much of the experimental work which has been done in an attempt to work out the physics and mechanics of head injuries has been without very significant results. This is natural in view of the fact that in cadavers (which can rarely be examined in the fresh condition) the rigidity and inertness, the muscular atony, absence of circulation and deflux of the cerebrospinal fluid give rise to physical and mechanical conditions which are quite different from those which exist in the living subject. However, some of the studies along this line, such as the experiments of Felizet on the elasticity of the cranium, the work of Coppez on the mechanism of chiasmal injuries, etc., have been of definite value.

Because of the structural characteristics of the skull, a vault affording almost complete bone continuity, with closed sutures and with a base weakened by many openings for nerves and blood vessels, in blows or falls upon the vertex of the head, the force naturally tends to be transmitted to the base. This frequently causes a basal fracture with or without a coincident fracture of the vault.

The anatomical relationship of the optic nerves, chiasm, optic tracts and nuclear centers with the skull base, especially in the region of the middle fossa, explains the frequency with which these basal fractures are followed by disturbances of vision.

\*Presented before the annual meeting of the Minnesota State Medical Association, Minneapolis, May 6, 1931.

The force of blunt traumatism to the skull, from any angle, tends to pass around in radiating directions, causing cracks with varying degrees of separation of the bone. These cracks

lancet or, as in some cases, is joined to the petrosa by a small osseous pedicle.

Due to the firm attachment of the petrosphenobasilar ligament (which connects the apex

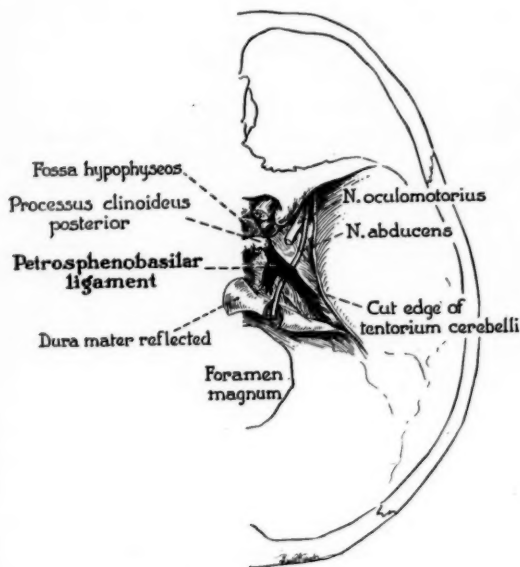


Fig. 1. Dissection showing relationship of abducens nerve to petro-spheno-basilar ligament.

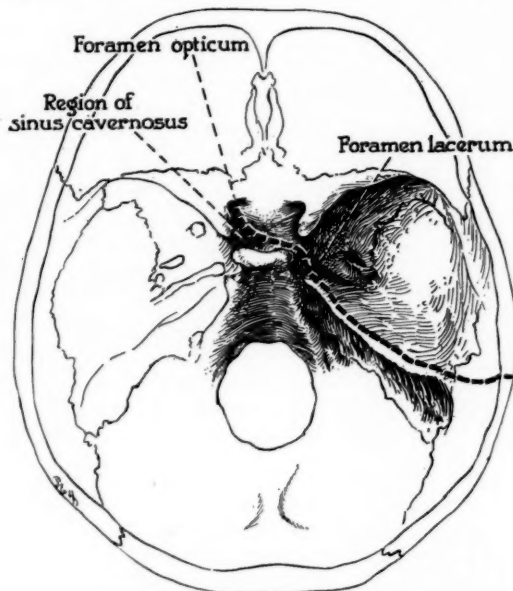


Fig. 2. Ajello's case of fracture of the right middle fossa extending into the optic foramen of the opposite side.

naturally tend to follow the weaker structures lying between the bony buttresses, and hence to involve the fossæ.

Fractures which irradiate from the parietotemporal region to the corresponding middle fossa are much the most frequent of all fractures extending to the base. This is due to the extreme thinness of the bone in this part, and to the fact that at this point is found the greatest distance between the two nearest reinforcements—the orbito-sphenoidal pilaster in front and the pilaster of the petrosa and mastoid tuberosity behind.

In fractures of the middle fossa, particularly those which injure its posterior portion, the pyramid formed by the petrosa is almost always involved. The line of fracture usually follows a course parallel to the axis of the pyramid. The inelasticity of the pyramid, the numerous canals which traverse it, and its oblique median slant make this region particularly vulnerable. In fractures parallel to the axis of the pyramid the apex is almost always involved, especially when the bone is sharpened into a simple apophyseal

of the petrosa to the dorsum of the sella and to the basilar process of the occipital bone), the apex is not able to take part in the rotation of the pyramid, a condition liable to occur in traumatism of the median fossa. The anatomy of Dorello's canal is of interest in this connection. Vail says, "Between the spina sphenoidalis and the processus clinoides posticus there is a sinus with its concavity directed superiorly and laterally. It is bridged over by the petro-spheno-basilar ligament. In this space lie the abducens nerve and the inferior petrosal sinus where it empties into the cavernous sinus. The abducens lies in the lower boundary of this area, often being confined to the angle which the spina sphenoidalis makes with the upper margin of the pyramid of the petrous bone, which at this point is somewhat flattened from above. After leaving Dorello's canal the abducens makes a slight bend and enters the cavernous sinus, where it now lies in near relationship to the carotid artery."

The trunk of the abducens nerve (Fig. 1), passing beneath the ligament and in close contact with the bone, is almost always injured in frac-



tures in this region. This gives rise to one of the most frequently encountered traumatic peripheral paralyses in basal fractures—that of the external rectus.

In most fractures extending into the petrous portion the apex is found to be broken and separated from the rest of the bone for about 3 mm. distance. This corresponds precisely with the length of the fixed portion of the petro-sphenobasilar ligament.

The majority of fractures of the middle fossa terminate in the foramina of the same side. It must, however, be remembered that they sometimes reach the optic foramen on the opposite side. Ajello cites a case of fracture of the right median fossa extending completely across the length of the pyramid bordering its upper margin and passing obliquely into the corresponding foramen lacerum. From here the fracture ascended the internal face of the cavernous sinus and ran across the sella into the optic foramen of the opposite side (Fig. 2).

The extent of fractures of this kind is sometimes overlooked at autopsy if the whole base of the cranium is not completely denuded of the dura, which is closely adherent to the subjacent bone, often concealing slight and incomplete lines of fracture.

In basal fracture there is frequent participation of the walls of the orbit. Of eighty-six cases Von Holder found seventy-three in which the orbit was involved. The majority of orbital fractures extend into the optic canal and foramen. The anatomical relationship of the optic nerve with the foramen and canal is such that the nerve is almost inevitably injured. The meninges of the brain here form three concentric sheaths around the nerve. The inner sheaths are delicate and easily lacerated; the external (dural) sheath adheres very closely to the periosteum of the foramen and the canal, especially to the upper and internal walls, which are very fragile. The spaces bounded by the three sheaths surrounding the nerve are closed anteriorly, but communicate directly with the subdural and subarachnoid spaces of the brain posteriorly, making possible the violent penetration of the endocranial fluid in severe injuries of the head. This explains the microscopic findings, since the penetration of the cerebrospinal fluid, besides causing expansive elevation of the sheath of the nerve and rupture of its trabecular network, gives rise

to separation, contusion and laceration of the nerve elements and disorientation of their molecular relationship. In extravasation of blood into these spaces, the source of the hemorrhage may be the subdural cranial space, the ophthalmic artery or its branch, the central artery of the retina either before or after it enters the nerve about 12 mm. from the eyeball.

In Miceli's case, in which the patient died of pneumonia about six weeks after the injury, (fracture involving the right optic canal), macroscopic examination showed the optic nerve to be thickened in the form of a club with the most swollen part toward the anterior extremity. Microscopically there was increase in the inter-vaginal space, more marked toward the distal end. In the vicinity of the lamina cribrosa the nerve fibers were tightly packed although in the tracts small vacuoles of varied form were interposed. There were ovoid lacunæ, lined with endothelium only from the side of the arachnoid. Some of these lacunæ penetrated like a fissure into the dural sheath.

The mechanism of injury to the optic chiasm is of particular interest. That cranial traumas so often fail to affect the chiasm is due to the latter's being so placed that it is seldom touched by the lines of fracture or splinters of bone.

The chiasm does not rest upon a bony surface but is encased in an arachnoid covering and situated above the anterior part of the tentorium of the hypophysis. It does not have direct connection with the diaphragm of the pituitary body, from which it is separated by the cisterna basalis of the subarachnoid space. This intervening space varies from 4 to 10 mm.

Hence, the line of fracture, even if it passes through the sphenoid body and optic groove, does not touch the chiasm (Fig. 3). Radiograms do not show bony splinters in this region nor have they been found at autopsy. It is probable that hemorrhage seldom exerts enough pressure on the chiasm to destroy the function of the crossed visual fibers.

Certain types of fracture are particularly liable to be associated with injuries of the chiasm. These are fronto-sphenoidal fracture, antero-lateral fracture with depression of the external orbital wall, and petro-occipital fractures extending to the sphenopetrosal suture.

The fronto-sphenoidal fracture is especially

common in automobile injuries and is usually the result of violence to the frontal region. As a rule, in these cases, the optic nerve is injured at the canal, causing a more or less complete monoc-

loss of sight in the one eye. If, however, there should be an extensive fracture of the canal, the tearing away of the nerve takes place farther back at the angle of the chiasm, adding a loss

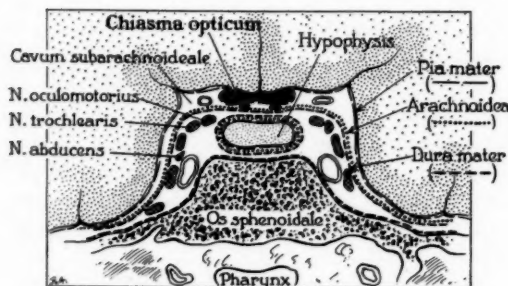


Fig. 3. Relationship of chiasm to hypophysis and os sphenoidale.

ular blindness promptly followed by atrophy; occasionally, however, a bitemporal hemianopsia is observed. The mechanism of the production of these hemianopsias is apparent.

In his experiments on the elasticity of the cranium, Felizet has shown that antero-posterior blows may increase the transverse diameter as much as 8 millimeters without fracture occurring. In more severe traumatism, which would inevitably be followed by fracture, the transverse "spread" is still greater. The ethmoid is depressed from front to back and is fractured in the same direction. The two optic canals are thus violently separated from each other, pulling away with them the optic nerves (Fig. 4). Coppez has demonstrated that the vulnerable points of the chiasm are the anterior angles at the attachments of the optic stalks. The nerve is firmly adherent to the walls of the optic canal and, if the traction induced by the "spread" is sufficient, the chiasm suffers a sagittal laceration which is, of course, followed by a bi-temporal hemianopsia. If some of the bundles of crossed fibers have been preserved there will be small areas in the temporal fields where vision will be intact. The macula is not, as a rule, involved and central vision usually remains unaltered.

The second type of fracture referred to above; i.e., antero-lateral fracture with depression of the external orbital wall, is one frequently observed following automobile injuries in which a wheel has run over the head. In these cases, if the nerve is torn at the anterior orifice of the canal on the same side as the injury, there is a simple

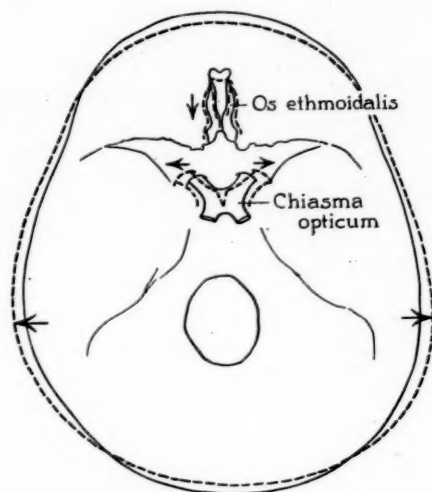


Fig. 4. Schematic drawing illustrating "spread" of optic foramina in compression of the cranium from force applied antero-posteriorly.

of function of the temporal field in the other eye to whatever damage may have been done to the eye on the side of the injury.

The third type of fracture mentioned (petro-occipital, extending to the spheno-petrosal suture) tends to follow a line parallel to the axis of the petrosa. The fracture line often reaches the sella turcica, running from behind forward and from the lateral to the mesial border, that is, perpendicular to the optic nerve on the same side. In this type of fracture, too, since the separation occurs in the direction of the course of the nerve, it may be assumed, that the nerve is suddenly and violently pulled by the spread of the bones, the force being transmitted to the chiasmal fibers as previously described.

Of particular interest in connection with the mechanism of injuries to the cortical portion of the visual apparatus are the cases of pressure atrophy of the brain following cerebral trauma.

Temple Fay in a recent article elucidates the underlying causes of these frequently overlooked or incorrectly diagnosed conditions. He demonstrates the effects of injury to the mechanism concerned in the secretion of the cerebrospinal fluid (the subarachnoid villi and paccchionian

bodies) and shows the importance of encephalography in the later determination of the degree of damage to the cerebral cortex.

The experience of surgeons during the Great

lesions are classified by Bing as follows:

1. Lesions of the retina.
2. Lesions of the optic nerve.
3. Lesions of the chiasm.

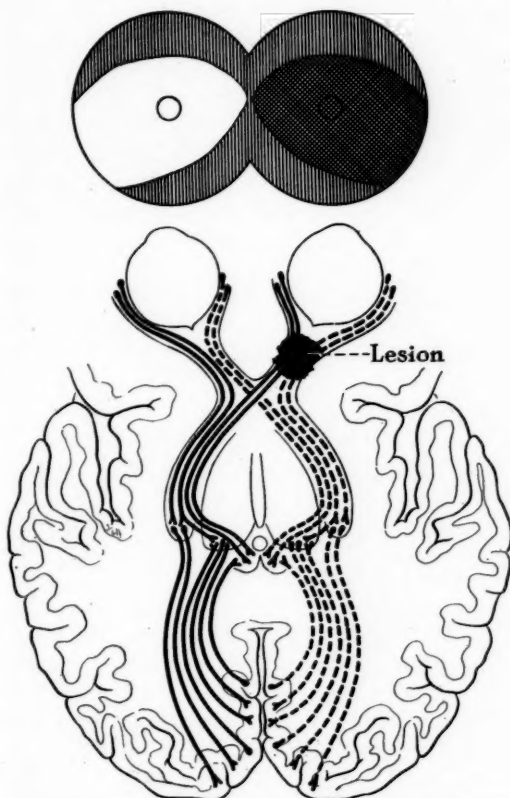


Fig. 5. Visual field in total destruction of optic nerve between retina and chiasm.

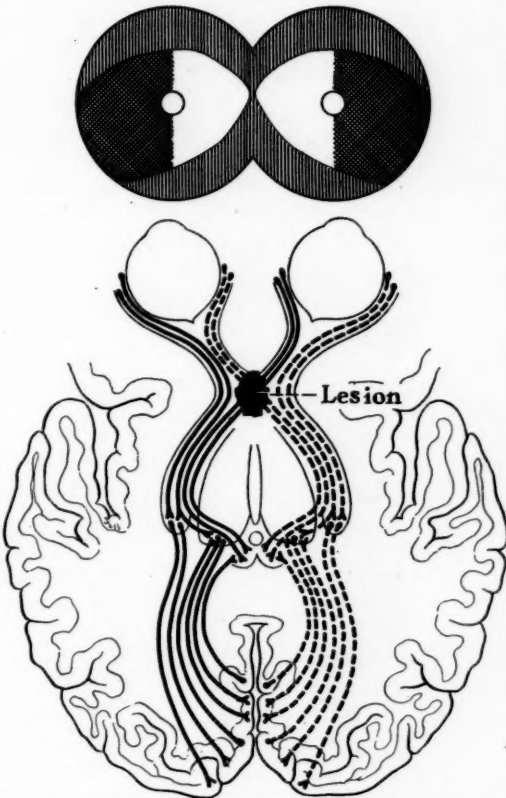


Fig. 6. Visual field in destruction of mesial fibers of optic chiasm.

War has materially enriched the literature concerning the visual effects of cranial injuries even though, at that time, the examination of patients immediately following the trauma was, as a rule, necessarily superficial. Under the circumstances, detailed study of visual disturbances with careful mapping of fields, etc., could not be undertaken until considerable time had elapsed.

There is still much to be learned in regard to cerebral localization so far as the visual apparatus is concerned. For example, considerable difference of opinion exists in regard to the cortical representation of the macula. In the light of what knowledge we now possess, it is, however, possible to locate, with considerable exactness, a lesion anywhere along the visual pathway from the retina to the higher cortical centers. These

4. Lesions of the optic tract, primary visual centers and radiation of Gratiolet.

5. Lesions of the area striata (cortex of the cuneus and upper part of the lingual gyrus).

6. Lesions of the convexity and white matter of the occipital lobe and the angular gyrus.

#### RETINA

Comotio retinae is usually due to direct contusion of the eyeball, but cases of transient loss of vision may occur after head injuries in which there is no apparent injury to the globe. These may, rarely, show a slight cloudiness of the fundus but usually the ophthalmoscopic examination is negative.

A number of cases of retinal or pre-retinal

hemorrhages following head trauma have been reported. Papilloedema, when it occurs, usually appears on the fourth day after the injury. It may, on rare occasions, be found as early as the third day or as late as the eighth day. Forrester, in examining the fundus in a large series of cases shortly after injury, did not observe a single case of choked disc.

#### OPTIC NERVE BETWEEN GLOBE AND CHIASM

Monocular blindness, exclusive of direct injury to the eye itself, is caused only by a lesion at this site (Fig. 5). In total destruction of the fibers the blindness is, of course, complete. If only part of the nerve fibers are destroyed an irregular restriction of the field of vision, scotomata, etc., will be found. In complete destruction pupillary responses are not evoked by the affected eye but may be by the other eye, whose perception of light is unimpaired. Injuries at this point are promptly followed by atrophy of the nerve. The nearer to the disc the injury occurs the sooner the atrophy ensues.

#### CHIASM

If the lesion resulting from the injury involves, as it usually does, only the mesial portion of the chiasm, there is a partial or complete destruction of the decussating fibers coming from the nasal halves of the retina. The result is a bitemporal heteronymous hemianopsia (Fig. 6).

If the external portions of the chiasm are destroyed, the mesial fibers remaining intact, there is suppression of the outer halves of the retina, giving rise to a nasal heteronymous hemianopsia. Although rare, this may occur as a result of disease, but it is practically unknown in traumatic cases. Apparently the late war furnished only one case of a traumatic lesion of this kind and that was not very thoroughly studied.

A lesion destroying exactly one-half of the chiasm would cause a complete loss of sight in the eye on the injured side and a temporal hemianopsia in the other eye.

Optic atrophy (affecting the corresponding sectors of the discs) does not appear until some time after the injury. The atrophy is more marked in the disc contralateral to the injury because of the crossed bundle being larger than the non-decussating one.

#### OPTIC TRACT, PRIMARY VISUAL CENTERS AND RADIATIONS OF GRATIOLET

Destructive lesions here cause homonymous lateral hemianopsia for the halves of the visual field on the side opposite to the lesion (Fig. 7).

It is possible to determine whether or not the injury has involved a point peripheral to that at which the reflex fibers to the Edinger-Westphal nucleus are given off by eliciting the hemianopic pupillary reaction (Wernicke's phenomenon). This is best carried out by using a small pocket flashlight with the end covered except for a small opening emitting a narrow pencil of light rays. This is held at about 45 cm. from the point of fixation through either half of the visual field while a disc of dull black cardboard or blotting paper is held on the side of the nose in order to prevent the reflection of rays toward the normal half of the retina. The test must, of course, be carried out in a darkened room.

If the injury has caused a lesion peripheral to the point at which the reflex fibers to the pupillary nucleus are given off, the light thrown on the blinded half of the retina will not cause a contraction of the pupil, its access to the oculomotor nucleus being blocked. On the contrary, if the lesion is central to this point, the pupil will react to the light since the nerve impulses are carried as far as the centers for the iris sphincters, although not being able to reach the cortical centers of vision.

#### AREA STRIATA (CORTEX OF THE CUNEUS AND UPPER PART OF THE LINGUAL GYRUS)

If the whole visual area of the cortex on one side is destroyed (Fig. 8), the result is the same as in a destruction of the thalamo-occipital fibers on the same side, i.e., a homonymous lateral hemianopsia with retained pupillary reaction. If only a part of one cortical area is destroyed only a segment of the lateral field is obliterated, causing a quadrant hemianopsia or symmetrically situated scotomata.

#### CONVEXITY AND WHITE MATTER OF THE OCCIPITAL LOBE AND OF THE ANGULAR GYRUS

"Bilateral lesions involving the visual memory centers in the cortex or the association fibers which pass thither from the area striata cause conceptual blindness, a condition in which the patient can see objects as flat surfaces or as solid



bodies but is unable to recognize them for what they are or to state their objects and uses."

Injuries to the angular gyrus cause alexia (inability to read) and sometimes a conjugate de-

fibers concerned in the conduction of colors being apparently more sensitive to the effects of pressure than those concerned in the transmission of the perception of form. Suker says that lesions

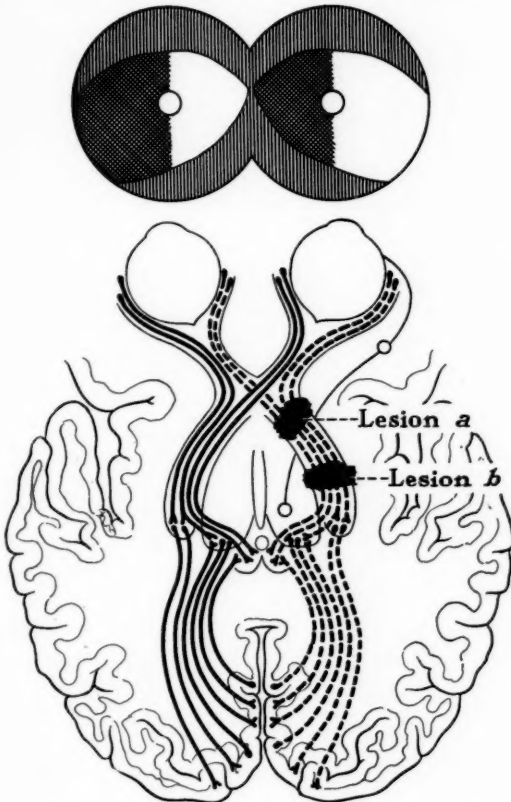


Fig. 7. Visual field in destruction of the right visual tract. (Lesion "A" peripheral to Edinger-Westphal nucleus—causing homonymous hemianopia with abolished hemianopic pupillary reaction.) (Lesion at "B" giving rise to same field changes with retained pupillary reaction.)

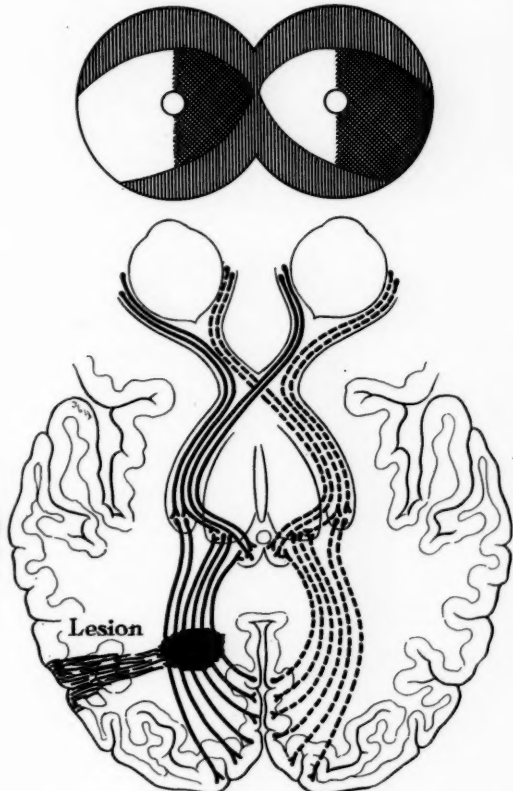


Fig. 8. Fields in destruction of white matter of occipital lobe. (Homonymous hemianopia with alexia.)

viation. In case of a destructive lesion of the gyrus the deviation is toward the side of the lesion, the angular gyrus being a thoroughfare for fibers which connect the visual area with the frontal centers for the ocular muscles.

#### LOSS OF ABILITY TO DISTINGUISH COLORS

Head trauma may be followed by loss of the color sense. This may be transient or permanent and may affect all or only a part of the visual field. Color blindness may be the only visual symptom complained of or it may be associated with impairment of central or peripheral vision. In traumatic cases, the fields of vision for color contract earlier than those for form, the nerve

central to the chiasm and tract are very seldom preceded by color changes and ascribes this to the fact that beyond the primary centers the form and color fibers are more widely separated than they are in the nerve, chiasm and tract.

#### MOTOR DERANGEMENTS

These may affect the lids, the muscles concerned in ocular movement or the intrinsic muscles governing the pupil and accommodation.

Paralysis of the orbicularis palpebrarum occurs rather frequently in injuries of the facial nerve. Parsons says that unilateral facial paralysis is the most common cranial nerve lesion in fractures of the skull base. The injury may

affect the supra-nuclear or infra-nuclear portion of the nerve. As a rule the orbicularis is not involved in lesions situated above the nuclear center. These paralyzes are important clinically

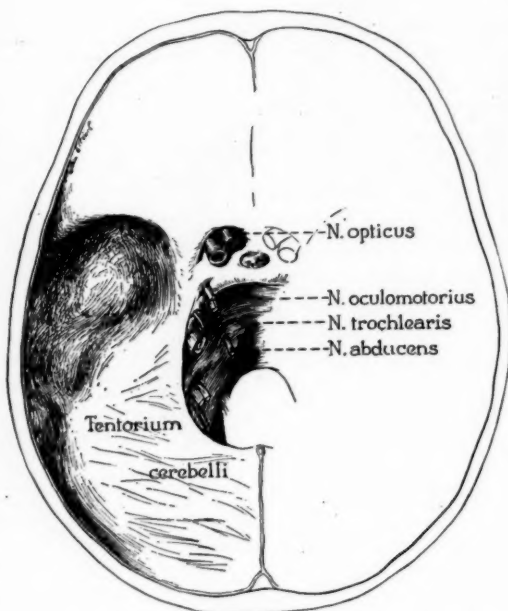


Fig. 9. Dissection of skull base showing relationship of oculomotor, trochlear and abducens nerves.

since the defective lid closure causes the cornea to be exposed to desiccation, especially during sleep. This is sometimes followed by a keratitis e lagophthalmo with subsequent impairment of sight.

Paralysis of the levator palpebrae superioris sometimes follows head injury. The trauma may affect the nerve close to the lid, in which case a simple ptosis will follow. In case the injury to the third nerve has affected a point above where the levator fibers are given off, some or all of the other muscles innervated by the oculo-motor will be involved.

Interruption of the sympathetic oculo-pupillary innervation is evidenced by the Bernard-Horner syndrome.

1. "Sympathetic" ptosis from paralysis of the involuntary portion of the levator of the upper lid.

2. Enophthalmos from paralysis of the musculus orbitalis. (This may be slight or not demonstrable at all.)

3. Paralytic miosis from interference with the function of the dilating fibers of the pupil.

This syndrome is a rather rare sequel of head injury. In one case seen by the writer the patient gave a history of having been injured in an automobile accident. He was thrown against the side of the car, striking the left side of his head against the frame. He was dazed for a while but only unconscious for a few moments, if at all; there was no evidence of skull fracture; the skin was unbroken; there was a bruise over the left temple and a discoloration of the left upper eyelid—typical Bernard-Horner syndrome. Neurological findings were otherwise negative. When the patient was last seen, two months after the injury, the condition was unchanged.

The most frequently encountered of the traumatic paralyzes of the extrinsic muscles are those of the sixth nerve (abducens). This nerve is particularly vulnerable because of its long course, its exposed position, and its relations to the petrous portion of the temporal bone and the petro-spheno-basilar ligament (Fig. 9).

In destructive injuries there is complete paralysis of the external rectus muscle with inability to abduct the eye. Abducens palsy follows in about 4 per cent of all basal fractures. Because of the supranuclear innervation of the ocular muscles being almost altogether bilateral, unilateral paralyzes are nearly always due to nuclear or infranuclear lesions.

Post-traumatic lesions of the third nerve (oculomotor) are less frequent, occurring in about 2 per cent of basal skull fractures. All, or only a part, of the muscles supplied by the nerve may be affected. In ophthalmoplegia totalis there is a ptosis (from paralysis of the levator) and the eye is turned strongly outward and a little downward from the action of the muscles not supplied by the third nerve, i.e., the external rectus and the superior oblique. Strictly speaking, of course, a total ophthalmoplegia would involve the abducens and trochlearis as well. The pupil is dilated and immobile and the power of accommodation is lost. The paralysis may affect only the extrinsic muscles, leaving the mechanism of the pupil and accommodation intact, or it may affect only the sphincter of the pupil and the ciliary muscle. By reason of its extensive connection with the petrosa the third nerve shares, in a measure, the vulnerability of the abducens and trochlearis; it is particularly liable to be in-

jured in fractures running into the superior orbital fissure. The nerve enters the fissure at its largest part close to the optic foramen and hence it is frequently involved in fractures of this region.

The fourth cranial nerve is affected in about 1 per cent of basal fractures. In patients who have sustained an injury to the trochlearis there is a characteristic tendency to turn the head toward the shoulder of the affected side and drop the chin in an effort to overcome the double vision. The image seen by the paralyzed eye is lower than that of the injured, and its upper end is tilted inward.

Reflex immobility of the pupil (Argyll-Robertson's sign) may occur as a result of cranial trauma. It is usually transitory. When due to an injury of the reflex centers it is bilateral. When observed in connection with injury to the orbit it is usually unilateral.

In injuries of the association centers (Fig. 10), there are encountered the type of paralyses which do not affect the muscles individually but which interfere with associate movements. This may take the form of an inability to converge, to look to the right or left, or upwards or downwards. In injuries causing destruction of the fibers of the cortico-nuclear tract above the pons, the patient looks toward the side on which the lesion is located; on the contrary, if the lesion is in or below the pons (the fibers of the tract having crossed) he looks away from the injured side.

Compensation usually occurs in conjugate paralyses which are, therefore, as a rule, not permanent. Riley says that there may be a paralysis of lateral deviation without any demonstrable lesion of the sixth nerve nucleus, and states that the center for lateral deviation is not identical with the abducens nucleus, but is situated in the near vicinity. He has observed bilateral loss of conjugate gaze in midline pontine lesions.

#### NYSTAGMUS

Nystagmus is an infrequent sequel of head injuries. Blakeslee observed it in thirteen out of six hundred and ten cases. It is an early symptom in those cases in which it occurs. The nystagmus following brain-stem lesions is apt to be permanent and thus may affect the future earning power of the injured person. That fol-

lowing injury to the labyrinth or cortical centers is usually transitory. Nystagmus observed in a person who has sustained a head injury is not necessarily a consequence of that injury. It may

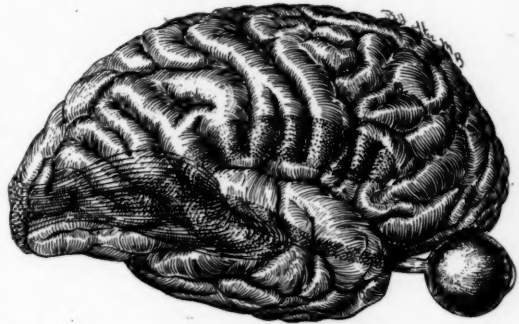


Fig. 10. Projection of visual tracts on brain surface. (After Max Brödel.)

be congenital or due to some pre-existing condition such as labyrinthine disease, diseases of the central nervous system, such as multiple sclerosis, cerebellar lesions, etc. It is sometimes observed in alcoholics and in drug addicts and may occur as an occupational neurosis, as in coal miners.

Head trauma is also sometimes followed by simple conjugate oscillatory movements of the eyeballs. In such cases the oscillations are simple and irregularly grouped, lacking the characteristic rhythmic phases of true nystagmus.

#### PSYCHIC AFFECTIONS OF THE SIGHT FOLLOWING HEAD INJURY

These may be grouped under two general headings: those cases due to hysteria, in which the underlying principle is that of inhibition; and those which are the result of a traumatic neurasthenia, in which the essential element is fatigue.

The theoretical differentiation of these conditions is simple, but the establishing of a valid clinical diagnosis may offer considerable difficulty. Hysteria and neurasthenia may co-exist in the same patient; a tendency to malingering may complicate either condition, thus adding to the difficulty in arriving at a conclusion.

The particularly interesting feature of ocular hysteria, as of that affecting other parts of the body, is its simulation of a wide range of organic

conditions. Head's classification of the ocular manifestations of hysteria is as follows:

1. Disturbances of sensibility
  - Anesthesia and hyperesthesia of the skin of the lids, cornea and conjunctiva
  - Photophobia
  - Neuralgia
2. Visual disturbances
  - Diplopia
  - Polyopia
  - Erythropsia
  - Macropsia and micropsia
  - Amblyopia and amaurosis
  - Hemeralopia (from reduced retinal function)
  - Visual field disturbances
3. Disturbances of motility
  - Ptosis
  - Blepharospasm
  - Strabismus
  - Spasm of accommodation
  - Miosis and mydriasis
  - Hysterical cycloplegia
  - Accommodative asthenopia
  - Nystagmus
  - Conjugate deviation
  - Convergence insufficiency
  - External ophthalmoplegia
4. Secretory disturbances
  - Epiphora and lacrymation
  - Dryness of conjunctiva
5. Subjective complaints
  - Insomnia
  - Vertigo
  - Inability to concentrate

The characteristic perimetric changes in hysteria are:

1. Concentrically contracted fields
2. Tubular fields
3. Reversal of color fields

It is of interest to note that even in extreme contraction of the fields, these hysterical patients have no difficulty in orientation such as accompanies similar contractions due to organic lesions.

Head injury in a neurasthenic person or one with a neurasthenic tendency may be followed by the exhaustion phenomena characteristic of ocular neurasthenia. These phenomena may take the form of an incapacity of the eye for continuous exertion in close work, pain on continued reading, sensitiveness to light, etc. The characteristic

spiral fatigue field of Von Reuss is frequently encountered. In hysteria the involvement of the field is usually constant, while in neurasthenia it is variable.

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## PRESIDENT'S LETTER

THE present unprecedented program for veteran's relief was already foreshadowed in 1920 when the United States Public Health Service was replaced by a Veteran's Bureau for the administration of disabled veterans' affairs.

Why did not the American Medical Association committees who approved those original medical policies of the Veterans' Bureau, propose, instead, their enlightened 1931 insurance plan for the care of veterans?

This is a question that the men who are working for the Shoulders insurance proposal for modifying the government veterans' program are going to meet often in the next few months particularly from officials of the disabled veterans' associations. These officials have been working all these years, they tell me, for just such liberalizations of the Veterans' Bureau policy with regard to the war disabled as the Shoulders plan would guarantee to every veteran whatever the origin of his disability with one sweeping gesture.

The physician and organized medicine in general undoubtedly missed a brilliant opportunity to perform a great public service when they failed to see the obvious trend in those early crowded days of random veterans' relief measures.

That it is much easier to see obvious trends after these trends have unmistakably revealed themselves goes without saying. War was never before fought on the scale of the World War and war relief drawn to the scale of the present Veterans' Bureau program was hardly even to be imagined. It is not to be wondered at, probably, that few physicians or anybody else foresaw the magnitude to which the program would grow in less than fifteen years from the date of the armistice.


To do anything now to divert the feverish hospital building program of the government, to check the debilitating policy of paternalism toward the ex-soldier will be harder, much harder, than ten years ago or five years ago or even two years ago before the appropriation of the last congress was made.

We must recognize this fact at the same time we acknowledge, also, that it does not relieve us from the obligation of doing what we can now.

The resolution offering disability insurance in place of unlimited government hospitalization for ex-service men has the support of many wise men in and out of the medical profession. It was sponsored by H. H. Shoulders of Tennessee at the May House of Delegates meeting of the American Medical Association and it appears to offer a workable solution to the problem of supplying all veterans with medical care for all their ailments without involving the government in a huge system of veterans' hospitals. As explained and commented upon by C. B. Wright in his paper in this issue of MINNESOTA MEDICINE this plan would relieve the government of the enormous expense involved in adequate care for the veterans while the veterans themselves would be at liberty, under the terms of a general disability policy, to get their own treatment where and from whom they chose.

The form that this disability policy might take is by no means confined to the suggestions embodied in the Shoulders resolution. In point of fact, certain inequalities between the treatment of service connected and non-service connected cases implied in the resolution have already been called in question by service men's organizations and will doubtless be adjusted.

The point is that only a fraction of the hospitals have been built that must be built if the Veterans' Bureau is to continue in its present policy, only a fraction of the money spent. If some such scheme as the Shoulders resolution suggests is feasible at all, either now or in the remote future, it should have the active earnest support of every forward looking citizen.



President  
Minnesota State Medical Association.

# EDITORIAL

## MINNESOTA MEDICINE

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## THE SHOULDERS RESOLUTION

Elsewhere in this magazine is an important paper by Dr. C. B. Wright of Minneapolis in which is outlined the major arguments in support of the Shoulders resolution passed in May by the House of Delegates of the American Medical Association.

Similar discussions are appearing currently in medical journals all over the country representing the first steps in an important general movement among physicians and legionnaires to modify the existing government policy with regard to Veterans' relief.

This new movement pins its hopes upon a system of insurance for veterans by which all who are disabled for any cause may be permitted to avail themselves at their own choice of civilian medical service and civilian hospitalization.

This insurance plan is designed to save the government enormous amounts of money for hospital building and staffing; to protect ex-soldier morale now seriously endangered by the paternalistic policy of the Veterans' Bureau and to find a means for using the already alarming number of empty beds in civilian hospitals.

In point of fact, the current hospital building program of the Veterans' Bureau presents a curious anomaly to anybody who is familiar with the situation in civilian hospitals. For the most part civilian hospitals are not in any sense money making institutions. They are very largely equipped by private gifts and endowments. Their present serious financial straits and the high prices that are necessarily charged to patients are due to the fact that a large proportion of their beds are empty. And yet this huge endowment in equipment is about to be duplicated a hundred times over by the Government and for hospitals that will further empty civilian hospital beds.

It is a question what the poor civilian who can claim no service record and no son or husband or father with a service record is going to do in another decade or two to get his hospital treatment at a fee that he can afford to pay in one life time.

There is one legitimate objection to this new agitation for a change in the administration of veterans' affairs. That is, of course, that it is a little late. Since the last Congress the Veterans' Bureau is already embarked on a greatly magnified new hospital building program. Many thousands of ex-service men with disabilities of non-service connection have already applied for and received all manner of treatment in Veterans' Bureau hospitals. But the difficulty of re-agitating this matter in Congress, of upsetting a new procedure which is rapidly acquiring the force of old precedent, should not deter any

really intelligent, determined effort toward changes. When the present appropriations are used up, more appropriations must be made, hundreds more hospitals must be built, untold millions spent, if the Veterans' Bureau is to continue unchecked in its present program.

It is interesting to recall in this connection that a definite concerted medical movement for a change in veterans' policy has been brewing for some time in Minnesota. Resolutions of objection to the government program have passed our House of Delegates several times and the same insurance plan that was later amplified by Dr. Shoulders received considerable attention when it was proposed at the Duluth meeting more than a year since.

### MITRAL INSUFFICIENCY

Less than two decades ago the diagnosis of mitral insufficiency was unusually common; today it is rather infrequently made. This turn of affairs has been referred to ironically by some as the result of medical vogue, but this is not the case.

Great strides have been made in recent years toward greater accuracy of cardiac diagnosis, attributable in large measure to critical correlation of clinical and pathologic data, the latter obtained by carefully conducted necropsy. Another important influence which has favorably affected diagnostic accuracy is the changing attitude of members of the medical profession as a whole; the attitude of contented indifference has been supplanted by one of critical inquiry. Even in days recently past, proof of diagnosis was demanded by a relatively small number of members of the medical profession; today, the pendulum, fortunately, is swinging in the opposite direction.

The presence of a systolic murmur, audible over the thorax, in the region of the apex of the heart, previously was considered sufficient evidence for the diagnosis of mitral insufficiency. Few attempts were made to distinguish regurgitation of blood at the mitral orifice, the result of endocardial valvular disease, from regurgitation due to stretching of the ring, such as may occur in hypertrophied and dilated hearts, without endocardial disease. Other causes of apical

systolic murmurs, such as sclerosis of valves, influences bringing about acceleration of flow of blood, such as occurs in severe anemia and in hyperthyroidism, were not usually distinguished from true mitral insufficiency.

Richard Cabot's very emphatic statement, which appeared in 1926, to the effect that uncomplicated mitral insufficiency is a nonentity, went far toward influencing the modern concept regarding this lesion. His conclusions, based on material obtained at necropsy, unquestionably are correct so far as his particular series is concerned, but it is impossible to deny the possible existence of a lesion on the basis of one individual's experience only.

The modern teaching, in brief, states that the presence of evidence indicative of mitral endocarditis invariably warrants the diagnosis of mitral stenosis.

The average normal mitral orifice in adult life has a circumference of 10 cm. From time to time cases are observed, in which, in life, objective signs justifying the diagnosis of mitral stenosis are not revealed and in which, at necropsy, narrowing of the mitral orifice or stenotic fusion of the valve leaflets are not seen, but clear-cut deformity of leaflets exists, permitting varying degrees of mitral insufficiency to occur.

Furthermore, as shown by Bass and others, the rheumatic endocarditis of children is frequently unattended by demonstrable mitral stenosis. Bass, in fact, believes that at least a third of the cases of mitral insufficiency in childhood are not complicated by stenosis. It is probable that most cases of mitral endocarditis are first brought into evidence by the manifestations of mitral insufficiency, the stenotic process occurring coincidentally, or later, as the case may be.

It seems desirable, after analyzing the actual facts at hand, to pursue a middle path regarding the diagnosis of pure mitral insufficiency. Its occurrence in adults is admittedly rare, but that it occurs occasionally cannot be contradicted, and its rather frequent occurrence in childhood is a fact.

FREDERICK A. WILLIUS.

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## MISCELLANEOUS

## MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

## MINNEAPOLIS MIDWIFE PLEADS GUILTY TO VIOLATING BASIC SCIENCE LAW

State of Minnesota *vs.* Marska, alias Mars

On July 8, 1931, Emma Marska, alias Emma Mars, entered a plea of guilty to violating the Basic Science Law. The complaint was filed by Mr. Brist, representing the State Board of Medical Examiners. Mrs. Marska had her place of business at 246 West Broadway, Minneapolis. She specialized in ailments of women, her knowledge having been obtained in Russia where she was a midwife and where she claimed her husband was a physician.

Judge Leary of the District Court sentenced the defendant to six months in the Minneapolis workhouse. The sentence was suspended on the one condition that the defendant absolutely refrain from practicing healing in this state in the future. The Medical Board has had this case re-checked since the above date and no evidence of law violation has been discovered.

The Medical Board reports the usual good coöperation from the Hennepin County Attorney's office as well as very fair consideration from Judge Leary of the District bench.

## NEW AND NON-OFFICIAL REMEDIES

The Council on Pharmacy and Chemistry has accepted the following:

## ABBOTT LABORATORIES

Capsules Pentobarbital Sodium-Abbott, 1½ grains  
ELI LILLY & CO.

Pulvules Pentobarbital Sodium-Lilly, 1½ grains  
Elixir No. 229 Ephedrine Sulphate, 2 grains  
PARKE, DAVIS & CO.

Ventriculin, 100 Gm. Bottle  
SANDOZ CHEMICAL WORKS, INC.  
Sandoptal

Tablets Sandoptal, 0.2 Gm.

## NONPROPRIETARY ARTICLES

Pentobarbital Sodium

## TRUTH ABOUT MEDICINES

*Alpha Naphthol Camphor Oil (Carel).*—It contains alpha-naphthol (New and Nonofficial Remedies, 1931, p. 292), 0.5 Gm.; camphor, 0.5 Gm.; cottonseed oil, 12 Gm.; liquid petrolatum to make 100 Gm. Carel Laboratories, Redondo, Calif.

*Alpha-Naphco Camphco Camphor Nasal Unguent.*—It contains alpha-naphco (New and Nonofficial Remedies, 1931, p. 293), 2 Gm.; camphor, 2 Gm.; petrolatum to make 100 Gm. Carel Laboratories, Redondo, Calif.

*Alpha-Naphco Cones.*—Each cone weighs 2.65 Gm. and contains alpha-naphco (New and Nonofficial Remedies, 1931, p. 293) Gm., in a base composed of boric acid and sodium bicarbonate, equal parts. Carel Laboratories, Redondo, Calif.

*Alpha-Naphco Menthol Suppositories.*—Each suppository weighs 5.2 Gm. and contains alpha-naphco (New and Nonofficial Remedies, 1931, p. 293), 0.356 Gm., and menthol, 0.014 Gm., in a base composed of oil of theobroma and yellow wax. Carel Laboratories, Redondo, Calif.

*Alpha-Naphco Rectal Suppositories.*—Each suppository weighs 2 Gm. and contains alpha-naphco (New and Nonofficial Remedies, 1931, p. 293), 0.1376 Gm. in a base composed of oil of theobroma and yellow wax. Carel Laboratories, Redondo, Calif.

*Alpha-Naphco Zinc Stearate Camphor Ointment.*—It contains alpha-naphco (New and Nonofficial Remedies, 1931, p. 293), 7.5 Gm.; camphor 1.5 Gm.; zinc stearate, 10 Gm.; starch 10 Gm., petrolatum to make 100 Gm. Carel Laboratories, Redondo, Calif.

*Alpha-Naphco Zinc Stearate Powder.*—It contains alpha-naphco (New and Nonofficial Remedies, 1931, p. 293), 3.65 Gm.; zinc stearate, 8.75 Gm., talcum to make 100 Gm. Carel Laboratories, Redondo, Calif. (Jour. A. M. A., July 11, 1931, p. 103.)

*Liver Extract-Lederle.*—A concentrated, water soluble, nitrogenous, nonprotein fraction obtained from fresh mammalian liver. It is supplied in vials containing an amount of powdered extract representing approximately 100 Gm. of fresh, whole liver. The product is proposed for use in the treatment of pernicious anemia and tropical sprue. Lederle Laboratories, Inc., Pearl River, N. Y.

*Rabies Vaccine (Hixson).*—An antirabic vaccine (New and Non-official Remedies, 1931, p. 358) prepared according to the general method of David Semple (phenol killed). The product is marketed in packages of seven vials, in packages of fourteen vials and in packages of fourteen syringes. (Jour. A. M. A., July 18, 1931, p. 179.)

## FOODS

The following products have been accepted by the Committee of Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in Accepted Foods:

*Vitamin D Bond Bread (General Baking Co., New York City).*—A white bread prepared by the straight dough process containing an added special nutrient vitamin D equivalent to that of three teaspoonfuls of standard cod liver oil for each 24 ounces of baked bread (140 vitamin D units as defined by the Council on Pharmacy and Chemistry). This bread is an adequate food source of vitamin D for normal nutrition.

*Lactogen (Nestle's Milk Products, Inc., New York).*—A spray-dried modified cow's milk containing added milk-fat and lactose. The prescribed dilution approximates human milk in percentages of milk-fat, protein, lactose and total minerals and in dispersion of the fat in fine globules. Lactogen is intended for infant feeding.

*Uffelmann's Golden Krust Bread (The Uffelmann Baking Co., Cincinnati).*—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., July 4, 1931, p. 31)

## « A PAGE FORUM OF THE COMMITTEE ON PUBLIC HEALTH EDUCATION »

### Social Workers Take Their Hurdles Easily

Economists, both medical and otherwise, may shy and balk. But the delegates to the National Conference of Social Work held at Minneapolis last June, leaped such barriers as State Medicine, for instance, with the greatest ease and jauntiness. And for platform purposes at least, they landed safely on the other side.

"All agreed" says a report on the health section meetings of the Conference by Robert W. Kelso of St. Louis, Chairman, "THAT THERE IS NOTHING SACRED ABOUT THE ANCIENT PRACTISE OF PRIVATE SERVICE FOR PRIVATE FEES; that centralized medical service could be rendered on reduced costs to the individual and with more educational effect."

There were other medical matters on which all at this conference were quite as easily agreed. They should be of sufficient interest to the members of the medical profession who are in fact still engaged in the ancient system of private practise for private fees to warrant quoting below.

It should be noted that Mr. Kelso himself is Director of the St. Louis Community Chest. He and most of the other delegates to the Conference deal constantly in one way or another with the problems of looking after the sick and are in fact more than normally concerned in all problems related to the cost of medical care and its extension. The Committee holds no brief for the following, but quotes it as indicative of the social service workers standpoint.

The final session of the division on Health considered the clinic and dispensary movement; first its history and trends; and second an impartial review of the riddle of state medicine. There are those who profess to fear the dispensary movement; not so with the group gathered in Division III. Reviewing recent calculations upon the mounting costs of medical care, the dispensary was hailed as the probable way out of a growing dilemma. Admittedly some go to the dispensary who could afford to pay a private physician, but it was felt that the physician himself is on the defensive to prove that his method of service with private fees is any better or more ethical for the individual than the group of clinics embodied in the dispensary.

On the score of state medicine the usual criticism was raised that the physician was being left out but it was maintained that if the welfare of the public demanded that the physician should group his specialized services in dispensaries, then this should be done: that there is nothing sacred about the ancient process of private service for private fees. All agreed that centralized medical service could be rendered on reduced costs to the individual and with more of an educational effect.

This spirited discussion dealt impatiently with old methods merely because they were old, and insisted that the conditions of modern life demand the best methods regardless of precedent. It may be said that this attitude was the temper of all the sessions of the Division. In no session of Division III was the floor discussion less than one hour in length."

## OF GENERAL INTEREST

Dr. Joseph F. Schaefer, formerly of the Mayo Clinic, Rochester, Minnesota, is now located at Owatonna, Minnesota.

Dr. Lewis M. Daniel of Minneapolis left in July for a trip through France, Germany, and Switzerland. Dr. Daniel will return to Minneapolis about September 15.

Dr. Arthur Edward Smith of Minneapolis sailed August 5 for Vienna where he will spend a month in study. Dr. Smith expects to return to his practice about September 22.

Dr. Carl O. Rice and family, of Minneapolis, left August 10 for Europe. Dr. Rice will study for several months as a fellow at the Surgical Clinic, University of Berne, Berne, Switzerland.

## TRAINING SCHOOL FOR MEDICAL RESERVE OFFICERS

The third annual Inactive Training School for Medical Reserve Officers will be held at Rochester, Minnesota, October 18 to November 1 under the auspices of the Mayo Foundation. The course is under the direction of Col. Geo. A. Skinner, Surgeon Seventh Corps Area, and is designed to maintain efficiency of Reserve Officers in their present grades or to prepare them for promotion to the next higher grade.

Medical officers contemplating taking the course should apply at once through their respective corp area headquarters.

L. B. WILSON, *Col. Aux. Res.*

## FRAUDULENT COLLECTION AGENCY

Another fraudulent collection agency is reported to be operating in Aitkin, Minnesota, under the name, "The United States Commercial Adjustment Company of Chicago."

This company, so-called, got hold of the list of debtors of an Aitkin physician and sent the entire list threatening letters without any warrant or authority from the physician himself.

The probability is that this agency will attempt to work the same trick throughout the territory and all physicians should be duly warned and on the lookout.

Complaints of unreliable and unethical collection agencies come to the attention of the Secretary of the Minnesota State Medical Association very frequently. It should be a rule for all physicians never to select a collection agency or give any information concerning their accounts without expert advice. In every city and every town there is a banker who can give ex-

pert advice. Everybody, including doctors, should think of bankers and go to them about financial matters just as the latter go to the doctor when they are sick.

## WARNING

W. A. Oyler, lately of Iowa and Illinois and Indiana, and professedly a Doctor of Medicine, has left Des Moines by order of the police and may be headed toward Minnesota or Kansas or some other nearby state, according to letters received in this office from Robert L. Parker, M.D., Secretary of the Iowa State Medical Society and Harold M. Camp, M.D., Secretary of the Illinois State Medical Society.

This new medical beggar left Indiana some time ago with the funds of a number of sympathetic physicians wrung from them by some tale of hard luck. His next stop was Cicero, Illinois, where his stories roused the suspicions of Dr. Camp, and resulted in an investigation by Dr. Arthur J. Cramp, Director of the Bureau of Investigation of the American Medical Association. The fraudulent record thus unearthed was sent on ahead of the traveller to Iowa and resulted in his arrest in Des Moines.

He is now at large, however, and all physicians are warned to call the County or State Medical Association headquarters, and above all, to refuse aid if any such man should apply to them.

## ASTHMOL AND ASTHMOL-EPHERDRINE NOT ACCEPTABLE FOR N. N. R.

Asthmol and Asthmol-Ephedrine are products of Opothepaueutic Laboratory, Sagone & Co., Palermo, Italy, distributed in the United States by the Asthmol Co., New York. Asthmol is a liquid preparation, marketed in the form of ampoules. The product is stated to be a combination of pituitary and suprarenal extracts but no definite statement of composition or potency is made. As the name suggests, Asthmol is proposed for the treatment of asthma. Asthmol-Ephedrine (also referred to as "Syrup of Asthmol") is stated to be composed of: "Ephedrin 0.20 Sodium Benzoate, iodide and bromide, ana 0.25,—Grindelia, 1.75 —In 100 c.c. of gomenolo-balsamic syrup. Contains alcohol: 2 per cent by volume." The claims advanced for Asthmol-Ephedrine are typical of those made for complex mixtures—the praise of each constituent is sung without any consideration being given to the question as to whether the several constituents, even if they have the virtues ascribed to them, are indicated at one and the same time and in precisely the amount furnished by the formula. The Council on Pharmacy and Chemistry finds Asthmol and Asthmol-Ephedrine (Dr. Sagone's Syrup of Asthmol) unacceptable for New and Non-official Remedies because their composition is unscientific and indefinite, because their names are therapeutically suggestive and not descriptive of composition, and because the therapeutic claims made for them are unwarranted. (*Jour. A. M. A.*, July 11, 1931, p. 103.)

## CONSULTATION BUREAU

WM. A. O'BRIEN, M.D., *Director*

Minnesota State Medical Association

11 West Summit Avenue  
Saint Paul, Minnesota

1. *Question.*—I have under treatment at the present time an eleven year old girl, who was perfectly well up to July 1st of this year. At that time, she developed generalized hemorrhages in the skin over the entire body. The lesions were first noted on the thighs, but in two days had spread. She also had a slight nose bleed which became more severe and hemorrhages into the tongue which interfered with eating. The fifth day of the bleeding she noticed gross blood in the stool and marked hematuria. Aside from these hemorrhages she has felt fairly well except for headaches.

Physical examination shows a well nourished and developed child. Pulse 102, temperature 99.6, blood pressure 120/76. The hemorrhages in the skin varied from pin point spots to large blotches. The change is most marked on the extremities. Multiple petechia are seen throughout the oral cavity, and blood blisters are present on the tongue and left great toe. The nose shows evidence of recent bleeding. The lymph nodes are not enlarged, neither is the spleen. The tonsils are out. The heart and lungs, and the rest of the physical examination yield no positive findings.

Hemoglobin 75 per cent, erythrocytes 4,440,000, leukocytes 7,250. Differential count—polymorphonuclear neutrophils 41 per cent, small lymphocytes 55 per cent, large lymphocytes 4 per cent. Platelets greatly diminished. No abnormal red or white blood cells. Coagulation time 7 minutes. Two days later the blood examination was practically the same except that the bleeding time was 5 minutes. The ninth day of the illness, the bleeding time was 3 minutes and the coagulation time 4 minutes. No platelets are seen on the smear.

For the past two days she has been improving. The hemorrhagic spots are fading, but the urine still shows gross blood. Treatment to date has consisted of calcium gluconate by mouth, oral fibrogen, styptysate, and sodium cacodylate. Transfusion has been considered.

I would greatly appreciate suggestions as to the probable diagnosis, treatment, and prognosis.

*Answer.*—From your description, two conditions will have to be considered: Toxic purpura and thrombocytopenic purpura. The bleeding and coagulation time seem to fall within normal limits. If thrombocytopenic purpura is present, the bleeding time is usually prolonged. The most likely diagnosis is toxic purpura, although the other form cannot be ruled out. Several cases similar to yours have come to our attention. Some of them apparently started as an upper respiratory infection. They have been treated by giving liver extract. A child of eleven should receive about six vials a day. All of our cases have apparently responded to this type of treatment, although one cannot be sure that a natural remission, independent of therapy, did not take place. If the condition is due to a disturbance of the platelets, transfusion may be necessary, if bleeding continues. This type tends to recur and become chronic. The child should be watched from this view point, and if a definite diagnosis of thrombocytopenic purpura can be established, splenectomy is indicated at a later date. Recent

reports indicate that about 80 per cent of the cases of true platelet purpura are benefited by this treatment. It is not recommended in the acute types. In addition to the liver extract, your patient should also have a high chlorophyll diet and calcium continued. The outlook is apparently good in your case, but many of these patients do not survive the acute form of purpura, especially the toxic variety.

2. *Question.*—Reports have come to me that there is some serum being used in the chronic stage of Parkinson's disease, and that the results are even better than with hyoscine. If there is any new preparation, I should appreciate hearing about it.

*Answer.*—The usual treatment of this condition is the use of hyoscine or stramonium. It appears at times as if hyoscine resistant cases respond to stramonium and vice versa. Stramonium may be given in the form of the tincture or the leaves. If the tincture is used, start with 15 minims three times a day after meals; increase the dosage two or three minims at a time until tolerance is reached. This usually occurs at sixty to seventy-five minims. A typical reaction is usually dry mouth, dilated pupils, and a general feeling of uneasiness. We assume from your letter that you are familiar with the hyoscine treatment.

Serum has not been extensively used although reports in the literature indicate that Coley's serum has been tried. As most people believe that the chief effect of this preparation is due to foreign protein, typhoid vaccine or boiled milk injections may be used. The results of any form of treatment are variable and it is difficult to state what may be expected in a given case. The technique of milk injections was published in the last issue of MINNESOTA MEDICINE, XIV, 748, (Aug.) 1931.

3. *Question.*—Is there any contraindication to complete surgical removal of the nipple in a woman past middle life whom I believe has Paget's disease of the nipple? The breast and axilla are entirely negative. Duration is one year. Lesion does not extend beyond the nipple. The biopsy would be sent in at once for microscopic diagnosis. If Paget's disease is present, would deep therapy be the treatment of choice, or should a radical breast amputation be done as soon as the diagnosis is confirmed?

*Answer.*—Although some authors insist that a preliminary treatment of soap and water should be tried on border line eczematous lesions of the areola, the best method of handling them is to excise the nipple and areola, extending the line of incision well beyond the involved part. If Paget's disease is present, a radical breast amputation, followed by deep X-ray therapy, is the treatment of choice. There are two theories as to the cause of this condition: One, that it is a change in the surface due to disturbance of lymph drainage by carcinoma beneath, and the other that it is a primary malignant degeneration of the nipple and areola. The involvement of the breast and axilla may not be obvious for some time after a simple excision is done. In our experience, many of these cases show a definite tumor later in their course. This is the reason for the recommendation of the usual treatment of malignant disease of the breast for these cases.



# OBITUARY

DR. JOSEPH J. MCKINNON  
1863-1931

Dr. J. J. McKinnon, for thirty-seven years active in the business and social life of Wadena, Minn., died at his home, of arterio-sclerosis, Friday, July 31, 1931.

Of Scotch descent Dr. McKinnon, son of Mr. and Mrs. Laughlin McKinnon, was born in Alexandria, Ontario, Canada, July 22, 1863. He received his early education at the Christian Brothers school and Holy Cross college at Montreal. Possessed of great talent and energy he completed his classical course with honors and took a degree of Bachelor of Arts at Laval University in Quebec in 1884. He spent the next two years as a professor in one of the Catholic institutions in Montreal.

In 1886 he came west and settled for a time at Hudson, Wisconsin, where he engaged in the study of law. Two years later, becoming interested in medicine, he matriculated in the College of Medicine at the University of Minnesota. During his medical course he also taught in the Cathedral school at St. Paul under Bishop Ireland and later became assistant supervisor of Public Night Schools in St. Paul. In this way he paid for his medical education. He was graduated from the university in 1893, and came to Wadena in December of that year.

He returned to Minneapolis for his bride, Miss Anna Blodgett, whom he married September 19, 1894. Dr. and Mrs. McKinnon returned to Wadena where they have since lived. Five children were born to Dr. and Mrs. McKinnon: Mona K., Jerome E., Donald F. and Patricia J. of Wadena and Dr. Laughlin W. of Frazee.

Dr. McKinnon possessed an optimistic and fearless outlook on life and was a man with the courage of his convictions. He was never so happy as when he was using his rugged intellect in a cause which he thought was right. His honesty and courage were widely known and respected and, combined with other admirable characteristics, made his an attractive personality.

Shortly after his arrival in Wadena he became actively interested in public affairs and served as mayor of the village. He was one of the prime movers in securing the Fair Oaks Lodge sanatorium for Wadena and served as president of the board from the time of its organization until his retirement from public life in 1929. He also administered the affairs of that institution as superintendent from 1925 until 1929.

Likewise he was a strong supporter of the Wesley hospital and served as president of the hospital board after that institution was secured for Wadena. In addition to these offices and the responsibility of a large private practice, he served long terms as county coroner and as city health officer.

Dr. McKinnon considered his profession as a consecrated calling and enjoyed high rank among his professional friends. At various times he held offices in

the Minnesota Medical Association and the Upper Mississippi Valley Medical Association. In his years of service as a general practitioner he gave unstintingly of his knowledge, skill, understanding and sympathy.

Dr. McKinnon is survived by his widow, his five children; two sisters, Rev. Sister St. Eusebia, St. Laurent, Ontario, Canada, and Mrs. J. M. MacDonald, Cornwall, Ontario, Canada; and two brothers, Charles of River Falls, Wisconsin and George of Alexandria, Ontario, Canada.

## VAPEX

Vapex is manufactured by Thomas Kerfoot and Company, Ltd., England, and is distributed in the United States by E. Fougere and Co., Inc., New York. The stuff is sold at a price that seems to be enormously in excess of the cost of its ingredients, which may explain the vast sums that have been spent on persuading the public that the product is a marvel of therapeutic efficiency. Some of the advertising slogans have been: "Vapex Amazed Scientists . . . Its vapor kills cold germs." "Instant relief for nasal affections with its delightful vapor." An advertisement in *Good House-keeping* contains the preposterous statement to the effect that "relief from head colds is instantaneous with Vapex." Vapex was examined in the A. M. A. Chemical Laboratory and as a result of this examination the Laboratory concluded that a solution having essentially similar chemical and physical attributes as Vapex may be made as follows: Menthol 15 Gm., Oil of Lavender Flowers 15 c.c., Alcohol 94 per cent to make 100 c.c. It thus appears that this alleged "important medical discovery" is essentially menthol dissolved in alcohol and perfumed with oil of lavender! And it is sold with the implied claim that it will cure nasal infections, give quick relief from catarrh and hay fever, and prevent influenza! (Jour. A. M. A., July 18, 1931, p. 196.)

## FAYRO

The Federal Trade Commission has issued a Cease and Desist order against the Fayro Laboratories, Inc., which demands that the unwarranted and false claims made in the exploitation of the "obesity cure" Fayro be discontinued. The Commission found that Fayro had essentially the following composition: Epsom salt, 7½ parts, Common salt, 1½ parts, Glauber's salts 1 part, scented with oil of pine needles. The retail price of Fayro was one dollar; the approximate cost of the ingredients was less than three cents. The exploiters of Fayro advertised that when dissolved in a tub containing a quantity of hot water and the body immersed therein, it would dissolve and remove excess fat. Over one and one-half million packages of Fayro have been sold to the gullible and about one-half million dollars spent in advertising this humbug. When the Federal Trade Commission was holding its hearings, the Fayro concern was able to produce two supposedly reputable physicians, Dr. R. C. Falconer and Dr. William C. Olson, to testify in favor of the nostrum. (Jour. A. M. A., July 11, 1931, p. 122.)

## REPORTS AND ANNOUNCEMENTS OF SOCIETIES

### MEDICAL BROADCAST FOR THE MONTH

The Minnesota State Medical Association  
Morning Health Service

The Minnesota State Medical Association broadcasts weekly at 11:15 o'clock every Wednesday morning over Station WCCO, Minneapolis and Saint Paul (810 kilocycles or 370.2 meters).

*Speaker:* William A. O'Brien, M.D., Associate Professor of Pathology and Preventive Medicine, Medical School, University of Minnesota.

The program for the month of September will be as follows:

- September 2—Lockjaw Prevention.
- September 9—Peptic Ulcer.
- September 16—Nutrition Education in Our Schools.
- September 23—Bichloride of Mercury Poisoning.
- September 30—Hodgkin's Disease.

### NORTHERN MINNESOTA MEDICAL ASSOCIATION

The following is a tentative program of the meeting of the Northern Minnesota Medical Association which is to be held at Hibbing, Minnesota, on September 14, 1931:

#### 8:30 Clinico-Pathological Conference

Specimens furnished through the courtesy of St. Lukes and St. Mary's Hospitals, Duluth, Minn. Case presentations by Dr. M. M. Fischer, Duluth. Pathological reports and specimen demonstration by Dr. George L. Berdez, Duluth.

X-Ray film discussions by Dr. Thos. Gage Clement and Dr. J. R. McNutt, of Duluth.

Discussions led by Dr. E. L. Tuohy, Duluth.

9:30 Ectopic Pregnancy—Drs. R. L. Bowen and T. A. Estrem, Hibbing.

9:50 Multiple Sclerosis—Dr. L. R. Gowan, Duluth.

10:10—Fractures of Tibia and Fibula, Involving the Joints—Dr. C. W. More, Eveleth.

10:30 Pediatric Subject—Dr. O. W. Rowe, Duluth.

#### INTERMISSION 15 MINUTES

11:05 Common Pathology of the New Born—Dr. Thomas Myers, St. Paul.

11:25 Pathology of Peptic Ulcer—Dr. D. C. Collins, Rochester.

#### LUNCH

Trip on observation car into Hull-Rust Mine. (Leave Androy Hotel in automobiles for the mine at 12:45)

2:30 Modern Anesthesia—Dr. J. S. Lundy, Rochester.

2:50 Title unannounced—Drs. R. B. Bray and W. H. Long, Fargo, North Dakota.

3:10 Remote Effects of Head Injuries—Dr. W. H. Hengstler, St. Paul.

3:30 Comparison of Number of Physicians in Different Sections of the United States, and also Europe—Dr. N. O. Pearce, Minneapolis.

4:00 What the American Doctor Sees in Europe—Dr. A. M. Snell, Rochester.

BANQUET at 6:30 or 7:00 P. M.—Drs. M. S. Henderson, E. A. Meyerding, and Mr. Mackey.

### MISSISSIPPI VALLEY CONFERENCE ON TUBERCULOSIS AND SANATORIUM ASSOCIATION

The joint yearly meeting of the Mississippi Valley Conference on Tuberculosis and the Mississippi Valley Sanatorium Association will be held this year at the Lowry Hotel in St. Paul, September 21, 22 and 23.

This double conference gathers together medical experts in tuberculosis, public health and social workers interested in the anti-tuberculosis movement from 12 Mississippi valley states. Three days of intensive study on medical and medico-sociological subjects and on Christmas Seal organization characterizes the program.

Among the states participating are Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Ohio and Wisconsin.

This year's program, in the hands of J. W. Becker, St. Louis, program chairman and of Walter J. Marckley, M.D., director of the tuberculosis division, U. S. Veteran's Hospital, Fort Snelling, president of the conference, and E. A. Meyerding, M.D., executive secretary of the Minnesota State Medical Association and secretary of the conference, promises to be outstanding among the 18 previous gatherings of the organization's history.

Tuberculin testing in all its aspects; case finding, vital statistics; the problem of tuberculosis in adolescence and the problem of the under-par child all will have consideration at various sessions.

Following is the tentative program of the sanatorium association session:

#### TENTATIVE PROGRAM

##### SANATORIUM SECTION MEETING

##### MISSISSIPPI VALLEY CONFERENCE ON TUBERCULOSIS

*Hotel Lowry, St. Paul*

September 21 and 22, 1931

Monday, September 21, 9:30 A. M.

Dr. E. R. Van Der Slice, Presiding

9:30 A. M.—Tuberculin Testing by Districts in Minnesota—Dr. W. S. Broker, Otter Tail County Sanatorium, Battle Lake, Minn. Discussion (10 min.)—Dr. Mary C. Ghostley, Lake Julia Sanatorium, Puposky, Minn.

10:00 A. M.—Phrenico-Exeresis in the Treatment of Lung Disease—Dr. Jerome R. Head, Chicago, Ill.

Discussion.

10:30 A. M.—Increasing Importance of Silicosis—Dr. A. W. Gray, Milwaukee, Wis.

Discussion.

11:00 A. M.—X-ray Clinic (To demonstrate the value of serial X-ray films in determining the progress of tuberculosis)—

(A) Dr. G. D. Kettelkamp, Robert Koch Hospital, Koch, Mo.

(B) Dr. C. F. Taylor, Kansas State Sanatorium, Norton, Kan.

(C) Dr. Paul D. Crimm, Boehne Hospital, Evansville, Ind.

(D) Dr. W. M. Spears, Oakdale, Ia.

Monday, September 21—2 P. M.

Dr. F. L. Jennings, Presiding

2:00 P. M.—Spontaneous Pneumothorax—Dr. Max Biesenthal, Chicago, Ill.

Discussion.

2:30 P. M.—Endoscopy in the Diagnosis and Treatment of Non-Tuberculous Diseases of the Lungs (Lantern)—Dr. Wm. A. Hudson, Detroit, Mich.

Discussion.

3:00 P. M.—Conservative vs. Surgical Treatment of Bone Tuberculosis—

Conservative Treatment—Dr. Robinson Bosworth, Municipal Tuberculosis Sanatorium, Rockford, Ill.

Surgical Treatment—Dr. Melvin Henderson, Mayo Clinic, Rochester, Minn.

Discussion.

4:00 P. M.—(A) What the X-ray Shows in Tuberculin Reactors—Dr. L. G. Rigler, University Hospital, Minneapolis, Minn.

(B) Types of Lesions Noted—Dr. J. A. Myers, Minneapolis, Minn.

Discussion.

Monday, September 21—8 P. M., Glen Lake Sanatorium, Oak Terrace, Minn.

Dr. E. S. Mariette, Presiding

8:00 P. M.—Tuberculosis Treatment Plus the Three R's—Dr. David A. Stewart, Associate Professor of Medicine, University of Manitoba, and Superintendent of the Manitoba Sanatorium, Ninette, Manitoba, Canada.

8:20 P. M.—The Advantages of Surgical Facilities in a Sanatorium—Dr. Jerome Head, Chicago, Ill.

8:40 P. M.—Scope and Possibilities of a Laboratory in a Tuberculosis Sanatorium—Speaker to be determined.

9:00 P. M.—Changes in the Last Ten Years Made in the Sanatorium Treatment of Tuberculosis—Dr. Walter J. Marckley, President, Mississippi Valley Conference, and Chief of the Tuberculosis Division of the Veterans' Hospital, Fort Snelling, Minn.

Tuesday, September 22—9:00 A. M.

Dr. Alfred Henry, Presiding

9:00 A. M.—The Need for Medical Social Service Work in Sanatoria—Miss Marguerite A. Ridler, Director of Social Service, Glen Lake Sanatorium, Oak Terrace, Minn.

Discussion—Dr. Hoyt E. Dearholt, Executive Secretary, Wisconsin Anti-Tuberculosis Association, Milwaukee, Wis.

9:30 A. M.—Interesting Case Reports (Each case to include a history, complete clinical information, X-ray records and films, autopsy record, macroscopic and microscopic demonstration.)—

(A) Dr. Wm. S. Middleton, Associate Professor of Medicine, University of Wisconsin, Madison, Wis.

(B) Dr. V. V. Norton, Hamilton County Tuberculosis Sanatorium, Cincinnati, Ohio.

(C) Dr. F. L. Jennings, Glen Lake Sanatorium, Oak Terrace, Minn.

(D) Dr. R. H. Morgan, Detroit, Mich.

11:30 A. M.—Tuberculosis in a Rural District—Dr. Edw. J. Simons, Swanville, Minn.

Discussion (5 min.)—Dr. Herman Hilleboe, Swanville, Minn.

(5 min.)—Dr. J. A. Myers, Minneapolis, Minn.

Tuesday, September 22—1:30 P. M.

Dr. E. R. Van Der Slice, Presiding

1:30 P. M.—Principles of Out-Patient Work in a Sanatorium—Dr. Geo. McL. Waldie, Copper County Sanatorium, Houghton, Mich.

Discussion.

1:50 P. M.—Following Up Sanatorium Patients—Dr. Geo. Thomas Palmer, Palmer Sanatorium, Springfield, Ill.

2:15 P. M.—Does Childhood Tuberculosis Require Hospitalization?—

Proponent—Dr. C. L. Hyde, Springfield Lake Sanatorium, East Akron, Ohio.

Opponent—Dr. C. A. Stewart, Associate Professor of Pediatrics, University of Minnesota, Minneapolis, Minn.

Discussion.

3:00 P. M.—Is the Sanatorium a Safe Place for Nurses?—Dr. E. S. Mariette, Glen Lake Sanatorium, Oak Terrace, Minn.

Discussion.

3:30 P. M.—Is a Good History 50 per cent of the Diagnosis in Tuberculosis? (With charts.)—Dr. Oscar Lotz, Wisconsin Anti-Tuberculosis Association, Milwaukee, Wis.

Discussion.

4:00 P. M.—(A) Tuberculin Reaction—What Is It?

(B) Does a Positive Reaction to Tuberculin Mean More Than Infection with Tubercle Bacilli? — Speaker to be determined.

Discussion.

### AMERICAN CONGRESS OF PHYSICAL THERAPY

The tenth anniversary session of the American Congress of Physical Therapy will be held October 5, 6, 7, 8, 1931, at the Hotel Fontenelle, Omaha, Nebraska. Appreciating the desirability of clinics and clinical demonstrations, the program committee has set aside the mornings for these purposes. It will be the first time that the society will have available ample clinical material for medical and surgical services. The coöperation of the University of Nebraska College of Medicine and the Creighton University School of Medicine has made this possible. In the section on Eye, Ear, Nose and Throat, tonsil clinics will be conducted daily during the first three days of the meeting. Electrosurgery for tonsils has found a definite place in the armamentarium of many surgeons. Prominent specialists will demonstrate the various methods and technics now being employed.

The subject of fractures will be thoroughly covered in the surgical clinics. Leading orthopedic surgeons will demonstrate every phase of the work, emphasizing the indications and contraindications for physical therapy.

In the medical section and in the medical clinics every allied specialty is represented. The subject of pneumonia will be adequately discussed, as will such subjects as come in the fields of pediatrics, gastroenterology and dermatology. Massage, therapeutic exercise and hydrotherapy will be presented by specialists in those fields.

The scientific papers will be read during the afternoon sessions. The unusually wide range of subjects and the meritorious papers which will be presented make this program an outstanding one.

The progressive physician who is desirous of keeping abreast of the times can no longer neglect his attendance at a meeting such as this one. Physicians desirous of having their technicians and assistants acquaint themselves with the newer developments in physical therapy are invited to have them attend this four-day scientific meeting. For preliminary program and other information write to the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

### INTER-STATE POST GRADUATE MEDICAL MEETING

The annual International Assembly of the Inter-State Post Graduate Medical Association of North America will be held in Milwaukee October 19 to 23 inclusive.

The preliminary program of morning, afternoon, and evening clinics and addresses contains the names of distinguished physicians and surgeons for the most part professors or associate professors of medical schools in Canada and the United States. The program this year does not include the names of any foreigners. Many names not noted on previous programs appear.

All the specialties in medicine are covered in the subject material and attendance at the services will prove of great value no matter what phase of medicine one may be interested in.

### SCOTT-CARVER COUNTY SOCIETY

The annual meeting of the Scott-Carver County Medical Society was held at Shakopee, Minnesota, on Tuesday, June 9, 1931. Dr. Gardner of St. Paul gave an interesting talk on "Bronchoscopy in the Removal of Foreign Bodies from the Bronchi and Esophagus." Dr. F. E. B. Foley, also of Saint Paul, gave a very comprehensive talk on "Obstructions at the Ureteral-Pelvic Junction." Both talks were illustrated with lantern slides.

The following officers were elected to serve for the year 1932: President, Dr. W. S. Emerson, Mayer; vice president, Dr. H. M. Juergens, Belle Plaine; secretary-treasurer, Dr. C. F. Cervinka, New Prague; delegate, Dr. H. A. Schneider, Jordan; alternate delegate, Dr. B. H. Simons, Chaska; censor for three years, Dr. H. E. Wunder, Shakopee.

### WRIGHT COUNTY SOCIETY

The second quarterly meeting of the Wright County Medical Society was held at Annandale, Minnesota, on Friday, April 10, 1931, at 3:00 o'clock P. M.

Dr. W. A. Fansler, Minneapolis, gave a short talk and a clinical demonstration of the Treatment of Hemorrhoids. A great deal of interest was shown by the local men in this type of treatment.

The other speaker, Dr. R. R. Sullivan, member of the State Board of Health, gave a talk on syphilis and gonorrhea, and illustrated his talk by several reels of moving pictures, illustrating the male urogenital anatomy—when normal and when infected. His talk aroused a great deal of comment and the various methods of treating venereal diseases were discussed pro and con. It was brought out very clearly that the usual method of treating gonorrhea is detrimental to the patient. It was also brought out that the gonococcus vaccine is only useful as a provocative and has no place as a curative.

This was one of the most interesting meetings ever held, and a larger attendance than we have had for some time.

The following were visitors: Drs. K. A. Walfred, Cold Springs, Minn.; R. N. Jones, St. Cloud, Minn.; Dr. Olsen, Cokato, Minnesota, and Dr. A. Ridgway, South Haven, Minn.

A short business meeting was held in which Dr. L. Bendix' application to membership was accepted.

C. L. ROHOLT, M.D., *Secretary*.

### MINNESOTA MEDICAL ALUMNI ASSOCIATION HOMECOMING PROGRAM

A Homecoming Program similar to the one so successfully given two years ago by the Minnesota Medical Alumni Association will be given this year, on October 30, the day preceding the Homecoming football event.

The complete program will appear in our October number. The tentative program includes the following:

Dr. E. Starr Judd, President of the American Medical Association: "The Present Status of Surgery of the Gallbladder."

Dr. S. Marx White, President of the American Col-



lege of Physicians: "Unimportant Heart Murmurs."

Dr. T. J. Kinsella: "Thoracic Surgery."

Other speakers will be: Dr. Irvine McQuarrie, Dr. John Butler, Dr. C. Nauman McCloud, Dr. J. M. Hayes, Dr. J. R. Aurelius, Dr. R. E. Scammon, Dr. J. C. McKinley.

The business meeting of the Alumni Association will be held at noon, at which time the Millard Memorial will be dedicated.

The program should attract as large an attendance as two years ago.

Dr. James S. Carey, 1009 Nicollet Avenue, Minneapolis, is Chairman of the Executive Committee.

## WOMEN'S AUXILIARY

### *Minnesota State Medical Association*

President—Mrs. James Blake, Hopkins  
Chairman Press and Publicity—Mrs. W. A. Lee, Fergus Falls  
Editor—Mrs. Horatio B. Sweetser, Jr., Minneapolis

The Auxiliary to the Minnesota State Medical Association is swinging into the work of a new year under the leadership of Mrs. James Blake of Hopkins, and the newly elected officers and committee chairmen of departments of work appointed by Mrs. Blake.

There are twenty-three Auxiliaries covering fifty-four counties. The county presidents are: Blue Earth, Mrs. A. E. Sohmer, Mankato; Camp Release, Mrs. J. S. Kilbride, Canby; Hennepin County, Mrs. Martin Nordland, Robbinsdale; McLeod County, Mrs. Thomas J. Trutna, Silver Lake; Meeker County, Mrs. A. W. Robertson, Litchfield; Mower County, Mrs. A. W. Allen, Austin; Nicollet-LeSueur, Mrs. Joseph O. McKeon, Montgomery; Olmsted County, Mrs. M. S. Henderson, Rochester; Park Region, Mrs. C. O. Estrem, Fergus Falls; Ramsey County, Mrs. W. H. Hengstler, St. Paul; Red River Valley, Mrs. B. C. Bernard, Thief River Falls; Redwood-Brown County, Mrs. Wm. A. Meierding, New Ulm; Rice County, Mrs. M. L. Mayland, Faribault; Scott-Carver County, Mrs. B. H. Simons, Chaska; Stearns-Benton, Mrs. Werner Hemstead, St. Cloud; Steele County, Mrs. A. B. Hart, Sr., Owatonna; St. Louis County, Mrs. F. N. Knapp, Duluth; Southwestern Minnesota, Mrs. L. Sogge, Windom; West Central, Mrs. Charles Bolsta, Ortonville; Washington County, Mrs. Wilfred Hewson, Stillwater; Wright County, Mrs. John Catlin, Buffalo.

"The word 'Auxiliary' is defined by the Standard Dictionary as 'giving or furnishing aid or support, especially in a subordinate or secondary manner supplementary accessory,'" says Mrs. Blake. "I take the liberty of presenting this definition because it so well expresses the real objects and purposes of the work of the Auxiliary, and at the same time so definitely states the limitations of our work.

"Joining and taking an active part in the Women's Auxiliary could very well be ranked as the first activity which any physician's wife should assume outside

her home. The immediate welfare of physicians and their families and the future of medical practice depend upon what the public thinks and does with regard to medical practice and health activities. Organized medicine exists largely for the scientific advancement of its members, the betterment of the profession, and proper guidance of health activities. Except for scientific education, practically every purpose of organized medicine needs the assistance of a Woman's Auxiliary. The work of our County Auxiliaries runs along three definite lines—educational, social and philanthropic—and many times we find the first and third combined."

The National Convention of the Woman's Auxiliary to the American Medical Association, held in Philadelphia in June proved a success in every way. Over 1,100 women were registered and attended the three general meetings, and State presidents from thirty-seven states gave reports of their activities, social, philanthropic, and educational. The latter proved the most important activity as every one sensed the need of a public educated to the ideals of Organized Medicine. Many states were advocating student loans.

Dr. Joel T. Boone, Mr. Hoover's physician, and Dr. E. Starr Judd spoke at the Woman's Auxiliary luncheon. At a joint meeting with the A. M. A. we heard the address of the new A. M. A. president, Dr. Judd, from our own State.

Members of the Auxiliaries of Pennsylvania, Delaware and New Jersey were hostesses at various places: Valley Forge, Longwood, Atlantic City, Delaware River, historic Philadelphia, and at the President's reception.

Mrs. Walter Jackson Freeman, Convention Chairman, is to be congratulated on the efficiency with which her committee handled the convention, and the comfort and pleasure with which the large number of visitors were entertained during their stay in hospitable Philadelphia.

### CAMP RELEASE AUXILIARY

The women's auxiliary to Camp Release Medical Society met at Ramsey Park, Redwood Falls, on Friday, July 31. Mrs. J. S. Kilbride of Canby, President, presided at the business session. It was voted to have a speaker at the next meeting of the Auxiliary. Mrs. H. T. Foshager, Clara City, and Mrs. W. N. Lee, Madison, were named on the Publicity Committee; Mrs. A. B. Mitchell, Hector, and Mrs. Hauge on the Legislative Committee, and Mrs. Cress and Mrs. Duncan on the Public Health Committee.

The following doctors were named by the Camp Release Society as members of the Advisory Board for the Auxiliary: Dr. L. S. Jordon, Granite Falls, Dr. L. G. Smith, Montevideo, and Dr. E. Flynn, Redwood Falls.

A picnic supper was served to the Auxiliary members and the members of Camp Release Medical Society at six o'clock.

## SCOTT-CARVER AUXILIARY

Scott-Carver Auxiliary met at Norwood, Wednesday, August 5, with Mrs. E. J. Eklund as the hostess. Mrs. Hesselgrave, Mrs. Schons and Mrs. Blake were guests. Talks of general interest to the group were the feature of the meeting and all enjoyed a delicious lunch. Scott-Carver Auxiliary is growing—new members were welcomed by the President, Mrs. Simons of Chaska and the State President, Mrs. Blake.

## THE PARK REGION DISTRICT AUXILIARY

The Women's Auxiliary to the Park Region Medical Society met with their husbands July 15, at the Otter-tail County Sanatorium where they were entertained at a delicious dinner by Dr. and Mrs. Broker. At the business meeting the following officers were elected: President, Mrs. C. O. Estrem, Fergus Falls; vice president, Mrs. P. Boyeson, Pelican Rapids; treasurer, Mrs. W. S. Broker, Battle Lake; secretary, Mrs. W. A. Lee, Fergus Falls.

## WASHINGTON COUNTY AUXILIARY

The Washington County Medical Society and Women's Auxiliary held their annual picnic on Thursday evening, July 9, on the beautiful grounds of Lakeview Memorial Hospital. A picnic basket was packed and sent to one of our honorary members, Mrs. E. E. Wells.

## THE INSOLOID (INSUROL) FRAUD

For the past year or two, there has been exploited from New York City and Bridgeport, Conn., a particularly vicious piece of quackery directed against diabetics. The nostrum involved was known, first, as Insuloid and was sold by Official Products, Inc., of 276 West 43rd St., New York City. The advertising stated that Insuloid Tablets "combined insulin with the actual substance of the pancreas gland" and they were described as "a triumph of German's biochemical laboratories." Later, the name of the concern was changed to the Insuloid Company of America, Inc. About the time that this change was made, there was also a change in the name of the product from Insuloid to Insuloid and the public was told, in effect, that Insuloid was merely a new name of Insuloid. The facts were that the products were entirely different. Insuloid Tablets were keratin-coated and contained animal tissue (probably derived from the pancreas). They did not contain boldo, jambul, myrtillin, bean-pod tea, or lithium benzoate. Insuloid, on the other hand, was an uncoated tablet and contained all of the products just named, except pancreatin. It did not contain insulin. Government experts introduced uncontroverted testimony to show that neither Insuloid tablets nor Insuloid tablets would cure diabetes and that neither was a substitute for insulin administered hypodermically. The Post Office authorities issued a fraud order against the Insuloid Company, Inc., H. C. Young, President and Official Products, Inc., Otto Probst, Manager, at New York City and Bridgeport, Conn. (Jour. A. M. A., July 4, 1931, p. 47.)

## PROGRESS

Abstracts to be submitted to Section Supervisors.

Members are urged to abstract valuable articles which they run across in their reading and send the abstracts to the physicians in charge of the respective sections. In order to avoid duplication it would be well to communicate with one of the section supervisors before the article is abstracted.

## SECTION SUPERVISORS

## EYE, EAR, NOSE AND THROAT

Virgil J. Schwartz, M.D.  
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## PEDIATRICS

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Roy N. Andrews, M.D.  
Mankato Clinic  
Mankato, Minnesota

## ROENTGENOLOGY

Leo G. Rigler, M.D.  
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Minneapolis, Minnesota

J. D. Camp, M.D.  
Mayo Clinic  
Rochester, Minnesota

## SURGERY

A. E. Sohmer, M.D.  
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## EYE, EAR, NOSE AND THROAT

THE SUPPURATION OF THE PETROUS PYRAMID: Pathology, Symptomatology, and Surgical Treatment: S. J. Kopetzky and Ralph Almour. (Ann. Ophthal., Rhinol and Laryng., Part I—39, Dec., 1930, p. 996; II—40, March, 1931, p. 157; III—40, June, 1931, p. 396). A new clinical entity is described. Experience with otitic and mastoid lesions that have been followed after the usual therapy, by an almost symptomless period—then a terminal meningitis, led the authors to view with a new concern, the symptoms of this quiescent period before the terminal symptoms appeared. The significance of the possibilities of a pneumatized petrous process and the symptoms of extension of infection to this area became evident.

Three avenues of invasion of the petrosa seem probable:

1. From the antrum or epitympanic space above or below the superior semicircular canal following the posterior superior wall of the petrosa into the pyramidal tip.
2. From the peri-tubal cells into the pyramidal tip.
3. From the peri-tubal cells directly into the carotid canal and then rupturing in the cavum meckeli.

The symptoms of petrous tip suppuration are divided into four periods:

#### I. Period of eye pain and aural discharge.

A persistent pain, orbital in location, must be caused by a lesion in direct proximity to the ophthalmic branch of the fifth nerve, for it has no sensory connection with other nerves in the petrosa. When surgical removal of the purulent focus in a mastoid process and middle ear does not result in the cessation of pain distributed over areas supplied by the second and third branches of the fifth nerve, the persistence of pain should be viewed as suspicious of a petrosal tip suppuration when it is continuous in nature and not of a spasmodic type.

In the authors' cases, either the middle ear continued to discharge until the lesion in the petrous tip was identified and eradicated, or else after the period during which the ear was dry, a profuse discharge suddenly reappeared at the same time as or shortly before the onset of the eye pain. (The authors suggest that explanation is offered of those cases of chronic suppurative otitis media associated with a normally pneumatized mastoid process, wherein the squamous epithelium plays no rôle, either in the cause or cure of the lesion. Wittmaack's work, to which the authors subscribe, explains the chronic otorrhea in cases where the factors of sclerosis and epithelium apply).

Other symptoms during this period were: facial weakness and vertigo and nystagmus in two cases, vomiting in several.

#### II. The period of low grade sepsis.

The temperature was low in the morning, usually between 99 and 100 degrees; toward late afternoon it would rise to 101 or 102.

#### III. The period of quiescence.

This averaged in the authors' cases between five and nineteen days. It was characterized by an absence of pain.

#### IV. The treminal period.

This presents in the main a clinical picture of an acute purulent leptomenigitis.

The information that the laboratory furnishes is negligible. Only the X-ray can be used to decided advantage.

The authors' surgical treatment of petrosal tip suppuration consists of, first, a simple mastoidectomy, then inspection of the area beneath the posterior semicircular canal leading toward the jugular bulb and in the region of the solid angle. An endeavor is made to find the point of invasion which characteristically appears as a fistulous opening with granulations around the mouth. If it is probed, a flow of pus almost always follows. A radical cavity is then completed, and, following the toilet of the middle ear, the inner wall of

the antrum and epitympanic space are searched for a fistulous opening leading into the petrosa. The areas to be inspected particularly are the spaces directly in front of and behind the superior semicircular canal. The over-hanging anterior external auditory canal and zygomatic root are removed and the anterior wall thinned down with a burr without opening into the glenoid fossa. The zygomatic root is then further removed to a level with the tegmen tympani. The housing of the tensor tympani muscle is removed. An entrance by burr is then made into the petrous process between the eustachian tube, cochlea, and carotid canal. The line of direction corresponds to a line drawn from the apex to the basal whorl of the cochlea.

(To be continued)

LAWRENCE R. BOIES.

PHYSICAL THERAPY IN THE TREATMENT OF DISEASES OF THE EAR, NOSE AND THROAT: T. H. ODENEAL, M.D., Beverly, Mass., (Arch. of Otolaryn., July, 1931, Volume 14, Number 1). In this article the author admits having wasted considerable time in experimenting with physical therapy in practically all the conditions in which these measures have been recommended, and follows by giving his experiences and results.

DIATHERMY is first taken up, and has been used by him principally in removing superficial growths about the face, and in the coagulation of tonsils. The latter subject is, of course, of considerable interest at the present time, due to the constant propaganda which has appeared in the public press on its behalf. He condemns desiccation of the tonsils as being too tedious and time-consuming to be worthy of attention, but claims that coagulation has given satisfactory results if patiently carried out. It is his custom to coagulate each tonsil on alternate occasions at least six times, and says that the result leaves a throat which appears smooth, and (as far as can be seen) the capsule is destroyed. He says that post-operative bleeding is as a rule very slight, but that on two occasions she has had severe hemorrhages following the separation of the slough, one of which necessitated suturing of the tonsil and pillar.

A warning is given not to mislead patients by telling them that the throat will not be sore after coagulation. If there is no soreness, that treatment has been valueless. Some patients complain bitterly of this soreness, whereas, others state that it is not severe.

In conclusion he states that while he coagulates a great many tonsils, his method of choice is still use of the knife, and this advice he always gives to his patients, unless there is some very valid reason why it cannot be done.

Under a heading of MEDICAL DIATHERMY, his results would seem to indicate that it is of definite benefit, in certain cases of loss of hearing, as well as exudative types of otitis media. It is not employed by him in chronic suppurative otitis media. In acute rhinitis it seems to be of extinct benefit, as it also is in chronic infections of the ear canal.

ULTRAVIOLET LIGHT. Ultraviolet light seems to arouse

very little enthusiasm on the part of the author. He claims it is of no value, whatever, in chronic suppuration of the ear, unless there is a very large perforation through the drum membrane. Neither has he had any permanent result from its use in diseases of the nose and accessory sinuses. The result in hayfever has been practically negative, and this is also true in vasomotorrhinitis.

However, irradiation of the entire body with the air-cooled lamp seems to be definitely beneficial in cases of sinus disease in children, by reason of its general tonic effect on the body. Care must be used not to overdose the patient.

In DISEASES OF THE THROAT, Vincent's Angina, and tubercular-laryngitis, occasionally good results are achieved.

GALVANISM is mentioned, and seems to find its best application in the removal of varicose vessels of the skin of the face. It is also of some value in so-called neuralgia pains.

The INFRA-RED LIGHT applied in sinus diseases, especially in acute infections of the frontal sinuses, gives good results in the relief of pain. This he believes, however, to be due principally to the heat generated by the lamp. The same is true in inflammatory conditions of the eye, such as iritis and acute glaucoma.

His experience with the KINESIPHONE and audotor, as mechanisms to relieve deafness, has been almost uniformly disappointing.

The whole article gives one the impression of a fair-minded report by a man who has been willing to devote sufficient time and energy to this type of experimentation, and has based his report on first-hand knowledge.

M. W. WHEELER, M.D.

**RETROBULBAR OPTIC NEURITIS ORIGINATING IN THE NASAL SINUSES**—A new method of demonstrating the relation between the sphenoid sinus and the optic nerve: Harris H. Vail, M.D., Cincinnati, (Arch. of Otolaryngol., June, 1931, Volume 13, Number 6). This worthwhile article is so well summarized by the author, that his summary is being quoted verbatim.

1. A brief résumé of the literature quoted by Canuylt, Ramadier and Velter would seem to show that retrobulbar optic neuritis of nasal origin has been recognized for several centuries.

2. The pathologic studies of Professor Herzog, of Innsbruck, are quoted, and his belief is emphasized that they will explain in every way the mechanism of the production of retrobulbar optic neuritis from posterior nasal sinusitis.

3. Statistics of various authors are quoted to show that the incidence of retrobulbar optic neuritis originating in the nasal sinuses varies according to the particular author's acceptance or denial of a nasal sinus etiology of retrobulbar optic neuritis.

4. A series of fifteen cases of retrobulbar optic neuritis of nasal origin seen by me are tabulated.

5. An important observation is made, namely, that when the onset of blindness was acute and could be definitely dated, it was always noticed after awakening

from sleep. The position of the head in sleeping favors the gravitation of infection to the upper outer angle of the sphenoid sinus where the optic nerve is in closest relation.

TABLE 8.—FINAL VISUAL ACUITY

No Operation (6 Cases)		Operation (9 Cases)		
No Treatment	Recovery Vision 20/25 or Better	Complete Recovery Vision 20/20	Vision 20/30	Slight Improvement; Vision 20/100 or Less
Cases 3*	3	7**	1	1***
Per cent 50	50	77	11.1	11.1

\*One of these patients (the recurrent case) would not consent to operation.

\*\*This includes one of the bilateral cases; vision in one eye was 20/20; in the other, 20/100.

\*\*\*This does not include one of the bilateral cases; vision in one eye was 20/100; in the other eye, 20/20.

6. Statistics are quoted to show that the ocular symptoms constitute an early indication of multiple sclerosis in only 14 per cent of the cases, and the opinion is stressed that the virus of multiple sclerosis may gain entrance to the central nervous system from the sphenoid sinus in the same way that organisms have been shown to do. If this is a fact, it would immediately indicate that an early operation on the posterior sinuses should be performed in cases of multiple sclerosis.

7. A new method is described of roentgen visualization of the relations between the optic canal and the sphenoid sinus by means of filling the sinus with radiopaque oil and so placing the patient's head that the upper outer angle of the sinus is dependent. Thus, the radiopaque oil comes into contact with the boundary of the sphenoid sinus where it is most closely related to the optic nerve. In no other position can this be shown.

LUCIAN G. CULVER, M.D.

**THE ROENTGEN FINDINGS IN SUPPURATION OF THE PETROUS APEX:** Henry K. Taylor (Ann. Ophthal., Rhinol. and Laryng., 40, June 31, p. 367). This presentation is based on the clinical work of Kopetzky and Almour; the roentgen findings were verified at operation.

It is routine now on their service to include in addition to the stereoscopic examination, a base plate and an anterior oblique projection of each petrous pyramid. The two latter are for reference. The author recommends for this examination the use of a fine focus tube, a small or medium sized cone, intensifying screens, and the Potter-Bucky diaphragm.

Position for the base plate: The patient is supine, with head lower than the remainder of the body and rests on the vertex, so that a line drawn through the auditory meatus and superior orbital margin is parallel to the table. The sagittal plane of the head is perpendicular to the table; the plate is horizontal. The tube is tilted upward 15 to 20 degrees, so that the cen-



tral ray is in the midline, one inch in front of the auditory meatus.

Position for the anteroposterior oblique projection of the pyramid: The patient is supine and the head rotated 45 degrees to the side opposite the one to be radiographed. The chin is pulled in. The film is horizontal. The central ray is perpendicular to the film and passes through a point one inch above the external angle of the uppermost orbit.

Interpretation: There is a slight diminution in aeration of a pneumatized petrosa in the presence of an acute otitis media or mastoiditis. One of the earliest findings in petrosal tip suppuration is a marked diminution in aeration with loss of trabeculations followed by decalcification or atrophy of the apical portion, the contour of the apex remaining intact. With progression, there is perforation and destruction of the contour of the apex.

LAWRENCE R. BOIES.

## MEDICINE

### TUBERCULOSIS ABSTRACTS\*

Atelectasis is defined as imperfect expansion of the lung. The condition is usually considered to be due to a gross obstruction in, or compression of, one of the larger bronchi, which prevents the expansion of the distal alveoli and causes their collapse. Several recent articles point out that atelectasis is a frequent occurrence in pulmonary tuberculosis and that it accounts for many of the physical and X-ray signs usually attributed to the tuberculous lesions. An understanding of the mechanism of atelectasis in pulmonary tuberculosis helps to clear up many of the puzzling phenomena of physical signs which cannot logically be accounted for by the existing pathology.

#### ATELECTASIS IN PULMONARY TUBERCULOSIS

Atelectasis in pulmonary tuberculosis may be caused in a number of ways. Tubercle bacilli commonly lodge in the terminal bronchioles where ciliated epithelium is not present and there tubercles are most likely to develop. The alveoli, or air cells, distal to the terminal bronchioles collapse and eventually become indurated. Large bronchi are also frequently invaded by the tuberculous process and produce atelectic areas distally. Extensive atelectasis is of common occurrence in chronic, fibroid tuberculosis, due to occlusion of bronchi by scar tissue or caseous material. Large tuberculous lymph nodes may, by pressure on the trachea or bronchi, cause patches or even extensive masses of atelectasis.

Apart from bronchial occlusion, there are other factors which favor atelectasis. In tuberculous lesions, particularly cavities, the air exchange is poor and the air pressure in cavities may be greater than the atmospheric pressure. Lobules supplied by bronchi inter-

cepted by such cavities are likely to be collapsed. Atelectasis is probably favored also by the methods of treating tuberculosis; extended rest in bed, breathing with little effort, avoiding cough.

#### X-RAY SIGNS OF ATELECTASIS

A characteristic anatomical finding in pulmonary tuberculosis is the small lung with elevated diaphragm and displacement of the mediastinum to the affected side. The diminution in size of the lung and the visceral displacement are not caused by contracting fibrous adhesions, for these changes are frequently observed early in the process before adhesions of any extent could form. Moreover, these findings also occur in types of tuberculosis that are not usually associated with fibrosis (miliary and pneumonic).

Bushnell finds displacement of the heart a very early sign and a delicate index of the existence of disease of the lungs. Norris finds a decrease in size of the entire hemithorax in unilateral, early tuberculosis. By fluoroscopic examination of cases with unilateral tuberculosis, the mediastinum is seen to move pendulum-wise toward the affected side during deep inspiration and back to the normal side during forced expiration. These and other observations indicate that the contracted lung of tuberculosis and visceral displacement are not always due to adhesions but are more often a manifestation of airlessness of the affected lung.

#### PHYSICAL SIGNS OF ATELECTASIS

Contraction of the affected side and restricted mobility are observed by mensuration and by inspection in early cases of tuberculosis. By percussion can be demonstrated signs of contraction of the entire lung, elevation and small excursions of the diaphragm. The earliest findings by auscultation are impairment or absence of the vesicular murmur and the gradual establishment of the bronchial murmur. Atelectasis accounts for or explains these changed breath sounds.

In more advanced lesions, physical signs become more pronounced; râles appear, and the mediastinal displacement comes into evidence. One of the most important signs in tuberculosis is the finding of râles during inspiration immediately following the expiratory cough. Such râles are due to the opening and closing of collapsed air passages as a result of forced breathing. As a tuberculous process becomes arrested, the atelectic areas show the presence of an increased amount of fibrous tissue; the alveoli are then permanently collapsed and râles can no longer be elicited.

The characteristic physical signs mentioned seem to be due to atelectasis rather than to the specific tuberculous infiltration.

#### THE MECHANISM OF ATELECTASIS IN TUBERCULOSIS

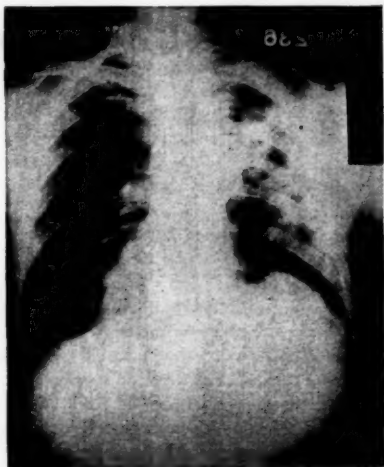
In the newborn, the lungs completely fill the chest and the intrapleural pressure is equal to the atmospheric pressure. As development proceeds, the chest grows more rapidly than the heart and lungs, which causes the intrapleural pressure to become negative. Decrease of the lung volume in atelectasis or cicatrization further increases the negative pressure in the intrapleural space on the affected side. This causes a displacement of the

\*Reprinted from Tuberculosis Abstract, a review for physicians, issued monthly by the National Tuberculosis Association, September, 1931, Vol. IV, No. 9.

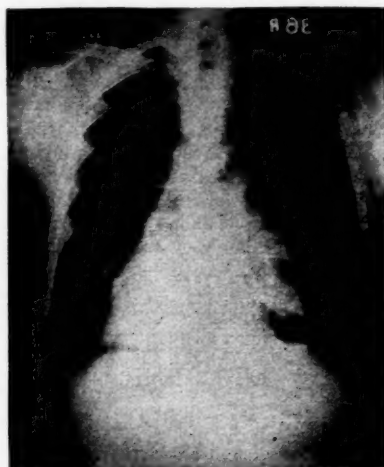
mediastinum to the affected side. For the same reason, the diaphragm on the affected side is elevated by the abdominal pressure.

Atmospheric pressure on the outside of the chest causes the crowding of the ribs, the deviation of the

plication of pulmonary tuberculosis. Aeration is sometimes restored without treatment. If the collapse has a sudden onset and the patient shows no tendency to hemorrhage, rolling the patient backward and forward with the involved side upward is sometimes effective.



Tuberculosis of right lung. The right hemithorax and lung are contracted; the heart and trachea are displaced to the right and the diaphragm is elevated on this side.



Artificial pneumothorax induced without difficulty. The right hemithorax is normal in size. The viscera are in normal position.

sternum, and the curvature of the spinal column. These abnormalities are more pronounced during inspiration because the intrapleural pressure is further lowered during this phase of inspiration since the collapsed lung cannot inflate sufficiently to fill the created space. During forced expiration, the conditions are reversed and the increased intrathoracic pressure is spent not in deflating the lungs but rather in displacing the mediastinum, which explains its pendulum movement.

As the absorption of air from the tissues is a rapid process, the visceral displacement is an early sign in tuberculosis, pneumonia, and in other diseases in which atelectasis occurs.—*Atelectasis in Pulmonary Tuberculosis*, Ephraim Korol, *Amer. Rev. of Tuberc.*, May, 1931.

#### TREATMENT OF ATELECTASIS IN PULMONARY TUBERCULOSIS

Lobar atelectasis or massive collapse has become a well recognized clinical condition. It is due to bronchial obstruction, complications of chronic pulmonary disease, tumors causing pressure. Glenn believes that lobar atelectasis, when occurring in pulmonary tuberculosis, is usually caused by obstruction of the bronchus to the lower lobe by pressure from a tuberculous lymph node or by contracting scar tissue. In his cases, atelectasis has developed slowly. He admits that none of his cases were bronchoscoped or came to autopsy and that, therefore, exact information concerning the etiological factors is not available.

Textbooks and medical literature give little information concerning the treatment of atelectasis as a com-

The first patient with atelectasis treated by the author with artificial pneumothorax showed such marked improvement that the treatment was repeated in other cases thereafter. He reports seven cases of lobar atelectasis as a complication of pulmonary tuberculosis.

All seven cases were of the left lower lobe. Six cases were treated with artificial pneumothorax and all were benefited. In at least two cases, the prognosis was changed from unfavorable to favorable. One patient could not be given artificial pneumothorax because the pleural space was obliterated by adhesions. He concludes that atelectasis, when a complication of pulmonary tuberculosis, is not difficult to recognize if the likelihood of its being present is realized, and that artificial pneumothorax is the logical treatment for this condition.—*Massive Atelectasis in Pulmonary Tuberculosis and Its Treatment by Artificial Pneumothorax*, E. E. Glenn, *Amer. Rev. of Tuberc.*, May, 1931.

**THE EPITHELIOID CELL:** R. S. Cunningham and Edna H. Tompkins (*Amer. Rev. of Tuberc.*, 1931, XXIII, 71). Cunningham, Sabin, Sugiyama and Kindwall found that the characteristic cell of tuberculosis was considerably larger than the average monocyte, and often mononucleated. They also found great numbers of monocytes in association with epithelioid cells in tuberculous tissues. They observed all stages of transitions in type of staining from that characteristic of the monocyte to that characteristic of the epithelioid cell. They found that the Langhans' giant cells contained rosettes similar to those in the epithelioid cells. They formulated the concept that epithelioid cells develop

from monocytes as a result of a tuberculous infection. Various investigators have since shown that stimuli other than tubercle bacilli can bring about the production of epithelioid cells, among them phosphatide fractions of tubercle bacilli, yellow phosphorous, nitrogen, oxygen, and carbon dioxide, or simply olive oil or mineral oil. The substances which stimulate the production of epithelioid cells and of Langhan's giant cells apparently act in such a way that the phagocytic of the monocytes becomes decreased, cellular division becomes abnormal, multinucleated forms appear, metabolism becomes disturbed and fatty degeneration takes place.

A. T. LAIRD, M.D.

## PEDIATRICS

**PREMATURE INFANTS—A STUDY OF 231 CASES OF PREMATURE INFANTS AT PHILADELPHIA LYING-IN HOSPITAL:** W. H. Crawford, M.D., Philadelphia (*Arch. of Ped.*, May, 1931, Vol. XLVIII, No. 5). Premature infants comprise all those born before the end of a full term intra-uterine pregnancy, and are therefore not fully developed. All those whose birth weight is less than five pounds are considered premature. Those with a birth weight between five and six pounds are considered immature, and those above six pounds are mature.

Hess says that a great number of premature infants die, not because their organs lack that degree of maturity necessary to proper functions, but because of early neglect, either through lack of adequate facilities or ignorance of exact methods of feeding and care.

Pediatric care of the normal premature resolves itself into:

1. Conserving body temperatures.
2. Providing suitable food.
3. Avoiding infections.

The cause of prematurity was determined in 91 cases, being: Syphilis 31, twins 26, toxemia 12, placenta prævia five, and others in lesser proportions. Average birth weight was four pounds, and gavage feeding was necessary in 17.4 per cent. Temperature was maintained in all cases by using an enclosed bed heated with electric lamps. Death occurred in 82 cases (35.5 per cent) due principally to: Prematurity, 50 per cent; syphilis, 23.2 per cent; pulmonary infection, atelectasis and intracranial hemorrhage, each 5 per cent.

R. N. ANDREWS, M.D.

**DIE TUBERCULINPFLASTERPROBE—EINE VEREINFACHTE METHODE ZUR AUSFÜHRUNG DER PERKUTANEN TUBERKULINPROBE.** N. Malmberg and B. Fromm (*Acta Pediat.*, X:433, June, 1931). The authors describe a simple method of applying the tuberculin test percutaneously, which they have used in a series of 745 children in a Stockholm clinic. In the original method, a drop of tuberculin was applied to the skin over the sternum and carefully covered with a small square of adhesive plaster, a second square being applied to an adjacent area as control. After 48 hours the adhesive was removed. The

appearance of papules, either distinct or confluent, was interpreted as a positive reaction. They later hit upon the idea of incorporating the tuberculin in the plaster in such a way that a drop was present in each square cm. of adhesive, a special control plaster also being made. In the first series of children, a Pirquet, Moro and tuberculin plaster test were applied simultaneously on different areas and all were read and recorded after 48 hours. In 92 per cent of the 745 cases, the results of the three tests were identical; in the remaining 8 per cent, indications were that the plaster and Moro tests were more sensitive than that of Pirquet. In a later series, the plaster test was applied to children who had been given a Mantoux test previously. A comparison of the results showed a high degree of accuracy in the percutaneous test.

The authors believe that the method described compares favorably with other standard methods, and that it has the double advantage of being simple in technic and of causing no discomfort to the patient. It was found that the tuberculin-plaster did not deteriorate when allowed to remain for a year in a tight container.

LOUISE G. FRARY, M.D.

**SINUSITIS IN CHILDREN:** Henry A. Reisman, M.D., Jamaica, N. Y. (*Arch. of Ped.*, May, 1931, Vol. XLVIII, No. 5). Sinusitis in children is fast becoming a problem of paramount importance because of its increasing prevalence, the difficulties encountered in diagnosis, the resistance of the sinusitis to treatment, and its many complications and sequelae.

Accordi, in 1911, stated that it should be regarded as an established fact, when children suffer from frequent attacks of head colds, that some of the accessory sinuses are involved. Marriott states that more than half the children in the hospital wards are under treatment for some form of paranasal sinus infection, regardless of the diagnosis on admission. The presence of an overlooked or untreated sinusitis must undoubtedly be the cause of a great many disappointments following tonsillectomies. Sinusitis should be placed among the group of conditions to be considered when dealing with a child with fever of "unknown origin."

In sinusitis there will be a cough which is usually worse at night. The child is pale, fatigues easily, has frequent colds with evidence of nasal stoppage, and the throat shows evidence of a chronic infection with hypertrophy of the retropharyngeal glands, and one will usually find a postnasal discharge. The X-ray is a most valuable aid in the diagnosis of sinus infections.

The author has been using the high fat and protein and low carbohydrate diet which is being used in his chest clinic, for children suffering from sinusitis. The result of the treatment with the diet in some instances was striking, particularly from the standpoint of weight and general condition. The child should be placed in the hands of a competent laryngologist who has both time and patience for children. If there is any doubt as to whether there is pus in the antrum, it should be irrigated, either through the natural orifice or by way of antrotomy. The author believes, if the vaccine is

autogenous, and properly given, the patient undoubtedly develops a greater resistance to nose and throat infections. Rest and prevention of over-fatigue is an important factor in the treatment.

R. N. ANDREWS, M.D.

**BLOOD CHANGES IN ACUTE RHEUMATIC AFFECTIONS OF THE HEART DURING CHILDHOOD.** Y. Åkerrén (*Acta Paediat.* X, 4:473-522, June, 1931). In introducing his study, the author presents two cases of acute polyarthritis in which there was apparently no heart involvement but which later developed a fatal endocarditis. He points out the importance of early diagnosis and the difficulties met with in interpreting physical signs and even X-ray findings in children. In an effort to find an objective test, he made a study of the blood of children suffering from acute heart disease following rheumatic joint affection. Subjects were chosen from the children's clinic of the University, Uppsala.

The most constant change in the blood was found to be an increased velocity in sedimentation of red blood cells. In no case where there were unquestionable clinical symptoms of acute heart involvement was this change absent. Increase in leucocyte and thrombocyte count was not found to be as constant or persistent. A comparison of temperature charts and sedimentation reaction graphs shows the latter to be a more sensitive indicator of the true cardiac condition. Sixteen cases are reported in detail. In one fatal case, there was no fever at all for a long period although the sedimentation increase remained high.

In therapy, bed rest was continued until after the sedimentation reaction had returned to normal. This was found to be fairly successful though fatal recurrences were observed twice, and the author feels that the period of rest should be longer.

LOUISE G. FRARY, M.D.

**RAW BASIC FEEDING IN ANOREXIA OF CHILDHOOD:** I. Newton Kugelmass, M.D., and Emma L. Samuel, M.S., New York, (*Arch of Ped.*, July, 1931, Vol. xlviii, No. 7). Anorexia is a chronic complaint, universal in apparently well children. The nutritional status of the child with chronic anorexia requires some immediate therapeutic procedure for the arrest of the progressive dystrophy. To await the return of a normal appetite following the alleviation of the underlying condition causative of the anorexia admits of nutritional degradation of the child. The authors have therefore resorted to the use of a raw, base-forming dietary as an initial means to an end in conjunction with other necessary therapy. They have observed that the gastric offense—decreased motility, decreased hunger contraction, decreased hydrogen ion concentration, decreased emptying time—is common to all children with chronic anorexia irrespective of primary etiology.

The child with chronic anorexia has lost this psychological catalyst to initiate the hunger period, thus mak-

ing the whole process of taking food very difficult. The psychological distortion in the child may either be hereditary, or acquired in the home, which is a veritable laboratory of psychic offense. The very structure of the child becomes transformed into the asthenic type as the result of unwholesome influence of its daily environment.

The authors have come to appreciate that the essential mechanism of digestion primarily depends on mechanical irritation induced by the food ingested. Loss of appetite in children is not a problem involving primarily inadequate gastric or duodenal juice or enzymes, but rather one of alimentary mechanics.

Offering nothing but raw basic feeding to carefully selected children with chronic anorexia is certainly productive of that type of mechanical irritation which a functionally atonic gastro-intestinal tract needs. The total effect is one of more complete emptying of the alimentary tract, thus favoring the development of more marked hunger contraction and its stimulation of the so-called hunger period.

Foods chosen for the anorexia diet are those in season which are universally eaten raw—the fruit, sound, ripe, well washed; the vegetable, crisp, clean and chilled. No foods are served between meals except fruit juice. Raw milk is served at each meal. No sugar or butter appears in the diet for the week, nor cooked food in any form.

The raw base-forming dietary is effective nutritional therapy for initiating the re-establishment of normal appetite, particularly when correlated with all other indicated therapy.

R. N. ANDREWS, M.D.

## ROENTGENOLOGY

**ROENTGENOLOGICAL APPEARANCE OF INTERLOBAR AND MEDIASTINAL ENCAPSULATED EFFUSION IN THE THORAX:** Eugene Freedman, M.D., (*Radiology*, 1931, XVI, 14). Interlobar effusions occur more frequently after a pneumonia than from other causes. The shadow of such an effusion extends from the hilum to the lateral chest wall in a vertical or oblique direction and at different levels of the lung fields, according to which part of the fissure is involved. The size and form of the shadow is manifold depending on the amount of fluid and the compressibility of the neighboring lobes. Usually the lower lobe is compressed and in such cases the upper border of the shadow is sharp and the lower border somewhat less distinct in the postero-anterior view. Small exudates are often band or wedge-shaped and the larger ones are circular. In the lateral view the shadows often overlap the heart, are ribbon or wedge-shaped and have straight or circular but always sharply defined borders. The diaphragm remains in normal position and moves freely. When pneumonia, atelectasis or effusion into the entire pleural cavity are present the roentgenological examination is not very helpful. When gas or air escapes into the interlobar space the appearance may be that of a lung abscess. Mar-



ginal pneumonias (involving parts of lobes near the septa) localizing caseating pneumonias and bronchial carcinomata may simulate effusion. Lateral views will exclude lobar pneumonia. Marginal pneumonias and localized caseated areas have usually only one sharp border. A marked anterior bulging in front of a pneumonia, the shadow of which is seen in lateral view suggests an effusion in front of the pneumonia. Lipiodal injections into the trachea visualize the defects and irregularities of the bronchial contour produced by carcinomata.

Mediastinal pleural effusions are, if serous, mostly tuberculous and if pleural, pneumococcal. The mediastinal pleura becomes involved from the tracheobronchial lymph nodes, the lungs, the pericardium, the thoracic wall or the mediastinum itself.

Anterior mediastinal effusions are represented by ribbon shaped shadows parallel to either the left or right silhouette and producing a double cardiac contour on the diseased side. The posterior mediastinal effusions produced either ribbon shaped shadows running parallel to the left or right borders of the vertebral column or triangular shadows in the cardiophrenic angles. In pericardial effusions the pulsations of the heart can be seen. Rotation of the patient helps to clear the diagnosis. When the lung about a bronchiectasis localized in the cardiophrenic sinus becomes surrounded with consolidated lung (pseudo-empyemic bronchiectasis), the diagnosis becomes very difficult unless lipiodal is used. Exploratory thoracentesis would be of no value as purulent material might be obtained in any case. Mediastinal tumors, aortic aneurysms, or paravertebral abscesses may cause confusion. The tumors have lobulated contours, the aneurysm may show pulsations and the paravertebral abscess will be accompanied by narrowing of the intervertebral spaces or evidences of bone destruction. Seven cases of interlobar and two cases of mediastinal effusion are reported. These reports are accompanied by reproduction of X-ray films.

A. T. LAIRD, M.D.

## SURGERY

**SPINAL ANESTHESIA BY LIMITED INDIVIDUALLY DOSED BELT-LIKE DISTRIBUTION:** Prof. Kirschner, Tuebingen (*Der Chirurg*, July 15, 1931. Vol. 3, No. 14, Page 633). The new thought which Professor Kirschner develops in this article is that by limiting the amount of anesthetic used, and placing it in that bodily segment subject to operation, one can use less anesthetic and avoid some of the complications and dangers of the usual routine methods of spinal anesthesia.

By the new technic, which Professor Kirschner has himself applied in 160 cases, the dose is adapted to the requirement at the time it is given, by watching the distribution of the drug, and limiting it to the amount needed for the particular case.

The two directions in which spinal anesthesia may be counted as a failure, are (1) giving a dangerously

larger dose than required, or (2) giving an insufficient dosage for the work in hand.

The author attempts to limit his anesthetic to that segment of the body which is under operation, without causing an anesthesia either above or below that particular segment. The principal features of the new technic are: The position of the patient, head down at an angle of 20 degrees; the injection of air into the subdural space, and the use of an anesthetic solution lighter than the specific gravity of the spinal fluid. He has worked out the solution and gives the formula and description of same, and he has also devised a syringe, which is double-barreled—one compartment for air, and the other compartment for the anesthetic solution. There is also described a spinal puncture needle, which is closed at the end and has a lateral opening.

This method of anesthesia has been used for lower as well as upper extremities, and for breast amputation. In abdominal work, in order to limit the amount of anesthetic put into the spinal canal, Professor Kirschner uses a regional block of the sympathetic nerves in the retroperitoneal space, after the abdomen is open. The drug which he uses is percain, because of its efficiency and duration of anesthesia produced.

His results in the use of this newer technic are as follows:

One can limit anesthesia to the distribution of a definite body segment with a full control of the caudal, as well as cranial extension of the area.

One avoids uncontrollable high distribution of the anesthetic, which might interfere with respiration or circulation.

One avoids the necessity of anesthetizing the lower end of the body.

Thus one has voluntary control over the upward and downward location of the anesthetic. In this way one gets a segmentary anesthesia with the minimum amount of anesthetic.

The dose is fitted to the individual case, by watching its immediate effects before a larger dose is used.

It differs from the lumbar anesthesia of Pitkin in that the lower end of the body is not necessarily anesthetized, since control of the site of the anesthetic is in a lower as well as in an upward direction.

The illustration of the physical conditions as they exist in the spinal column, with the heavy spinal fluid below, the floating fluid in the middle, with air on top, is well illustrated by diagram.

This new technic, worked out by a master surgeon, is of great practical interest in this day, when spinal anesthesia is being extensively used. As has been many times mentioned by those writing on this subject, anyone using spinal anesthesia, and especially a newer technic, should be absolutely versed in the physical, chemical, and physiological conditions under which he is working, before attempting the method.

To the experienced user of this form of anesthesia, any addition which either simplifies or makes safer this valuable form of anesthesia, is very welcome; and therefore the article by Professor Kirschner is a very valuable addition to this subject.

A. E. SOHMER, M.D.

## BOOK REVIEWS

Books listed here become the property of the Ramsey and Hennepin County Medical libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

**AN INTRODUCTION TO GYNECOLOGY.** C. Jeff Miller, M.D., Professor of Gynecology, Tulane University School of Medicine, etc. 327 pages. Illus. Price: \$5.00, cloth. St. Louis: C. V. Mosby Co., 1931.

**CLINICAL DIETETICS.** Harry Gauss, M.S., M.D., F.A.C.P., Instructor in Medicine, University of Colorado, School of Medicine. 490 pages. Illus. Price: \$8.00, cloth. St. Louis: C. V. Mosby Co., 1931.

**AMERICAN PHYSICIANS AND SURGEONS.** Edited by James Clark Fife. 1,737 pages. Price, \$30.00. Minneapolis: The Midwest Company.

**MODERN PROCTOLOGY.** Marion C. Pruitt, M.D., Associate in Surgery, Emory University School of Medicine, etc. 404 pages. Illus. Price, \$8.00. Saint Louis: C. V. Mosby Company.

**BEDSIDE INTERPRETATION OF LABORATORY FINDINGS.** Michael G. Wohl, M.D., Associate Professor of Experimental Medicine, Temple University, etc. 321 pages. Illus. Price, \$6.00. Saint Louis: C. V. Mosby Company.

**CUTANEOUS X-RAY AND RADIUM THERAPY.** Henry H. Hazen, A.M., M.D., Professor of Dermatology, Medical Department of Georgetown University, etc. 166 pages. Illus. Price, \$3.00. Saint Louis: C. V. Mosby Company.

**COMMON CONTAGIOUS DISEASES.** Philip M. Stimson. 353 pages. Illus. Price, \$3.75. Lea & Febiger, 1931.

Here is a notable example of the kind of handbook that one often seeks but seldom finds. It is concise, explicit, complete, up-to-date, and devoid of inconsequential verbiage. The various contagious diseases are

discussed adequately, and all of the most recent advances in that field are included. The general set-up of the book makes it attractive and easy to read.

THOMAS MYERS, M.D.

**NEW AND NON-OFFICIAL REMEDIES, 1931,** containing descriptions of the articles standing accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1931. Cloth. Price, postpaid, \$1.50. Pp. 481 + LVI. Chicago: American Medical Association, 1931.

This volume is the annual publication of the Council on Pharmacy and Chemistry of the American Medical Association giving the latest authentic information concerning those of the newer medicinal preparations found worthy of the consideration and use of the medical profession. Each year the Council scans the general articles under which the various preparations are classified and revises these to conform to the latest and best medical thought.

A glance at the preface shows that a number of preparations have been omitted because they conflict with the rules that govern acceptance, because their distributors did not present evidence to demonstrate their continued acceptability, or simply because the manufacturers have taken them off the market. Important revisions have been made in a number of the general articles and in the descriptions of various preparations. Among the new preparations that have been found by the Council during the past year to be eligible for admission to the book are: Amytal and Pulvules Sodium Amytal, 3 grains, barbituric acid derivatives for use preliminary to surgical anesthesia; Thio-Bismol, quinine bismuth iodide, sodium potassium bismuthyl tartrate, and Tartro-Quiniobine, bismuth compounds for use in the treatment of syphilis; Scillaren and Scillaren-B, preparations containing the squill glucosides; two new cod liver oil concentrates; Synephrine, a new vasoconstrictor, and synthetic thyroxine.

NEW AND NON-OFFICIAL REMEDIES should be in the hands of all who prescribe drugs. The book contains information about the newer materia medica which cannot be found in any other publication.

**WANTED—Salaried appointments for Class A Physicians** in all branches of the medical profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan Ave., Chicago. Established 1896. Member The Chicago Association of Commerce.

**WANTED—Scandinavian surgeon** of thorough training and pleasing personality for Northwest clinic group. Possible permanent connection. Address D-142, care MINNESOTA MEDICINE.

**WANTED—Young internist** with X-ray experience for clinic group. Norwegian preferred. No investment required. Address D-141, care MINNESOTA MEDICINE.

**DOCTOR'S OFFICES FOR RENT—Three good rooms** over drug store in down town Minneapolis. Steam heat and hot water in winter. Wide stairway. Good location. Reasonable rent. Address D-144, care MINNESOTA MEDICINE.

**CAPABLE X-RAY LABORATORY and PHYSIO-THERAPY TECHNICIAN** wishes employment. Three and one-half years' experience clinical and general office duties. References. Address D-145, care MINNESOTA MEDICINE.

**CAPABLE X-RAY and CLINICAL LABORATORY TECHNICIAN** desires position. Available October first. Can do typing and general office work. Excellent references. Address D-146, care MINNESOTA MEDICINE.

## MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

EXAMINATION REPORT, MAY 4, 1931  
(April)

## CANDIDATES BY EXAMINATION

NAME	SCHOOL AND DATE OF GRADUATION	ADDRESS
Arnell, James Rae, Jr.	Yale, M.D., 1929	Mayo Clinic, Rochester, Minn.
Barber, Kent Walker	U. of Pa., M.D., 1928	608 6th St. S.W., Rochester, Minn.
Bosland, Howard Glenn	U. of Minn., M.B., 1930	General Hospital, Minneapolis, Minn.
Broadie, Thomas Edward	Indiana Univ., M.D., 1928	Ancker Hospital, St. Paul, Minn.
Callaghan, Desmond Hays	U. of Minn., M.B., 1931	St. Mary's Hospital, Duluth, Minn.
Christenson, Grant Reynolds	U. of Minn., M.B., 1930	304 Harvard St., Minneapolis, Minn.
Cronk, Charles Frederick	U. of Minn., M.B., 1930	Cameron, Wis.
Edwards, Richard Graham	U. of Minn., M.B., 1930	General Hospital, Minneapolis, Minn.
Eneboe, John Bernard	U. of Minn., M.B., 1930	615 S. 1st Ave., Sioux Falls, S. D.
Foor, Clifford Gault	U. of Cincinnati, M.B., 1928; M.D., 1929	Mayo Clinic, Rochester, Minn.
Gaida, Joseph Benedict	U. of Minn., M.B., 1931	St. Mary's Hospital, Minneapolis, Minn.
Gamm, Kenneth E.	U. of Minn., M.B., 1931	1266 Charles St., St. Paul, Minn.
Gerdes, Maude Marguerite	U. of Minn., M.B., 1929; M.D., 1930	Zeeland, N. Dak.
Gifford, Byron Lee	U. of Minn., M.B., 1931	Battle Lake, Minn.
Haugen, John Amberg	U. of Minn., M.B., 1930; M.D., 1931	97 Orlin Ave. S.E., Minneapolis, Minn.
Howell, William Ladelle	Baylor Univ., M.D., 1928	219 6th Ave. S.W., Rochester, Minn.
Jump, Walter Clinton	U. of Minn., M.B., 1931	St. Mary's Hospital, Duluth, Minn.
Lietzke, Erwin Thomas	U. of Minn., M.B., 1930	1515 Charles St., St. Paul, Minn.
Lippman, Elmer Wesley	U. of Minn., M.B., 1930	St. Luke's Hospital, Duluth, Minn.
Lynch, Helen Margaret	U. of Minn., M.B., 1930	Cedar Falls, Iowa
McCann, Eugene J.	U. of Minn., M.B., 1930	General Hospital, Minneapolis, Minn.
McNeely, Celia Alma	U. of Toronto, M.B., 1926	Women's Hospital, Philadelphia, Pa.
Martin, William Joseph, Jr.	U. of Pa., M.D., 1927	Mayo Clinic, Rochester, Minn.
Merrill, Elisabeth	U. of Minn., M.B., 1930	707 Goodrich Ave., St. Paul, Minn.
Mistachkin, Norman Leonard	U. of Minn., M.B., 1930; M.D., 1931	St. Louis, Mo.
Murray, Stephen E.	U. of Pa., M.D., 1928	102 2nd Ave. S.W., Rochester, Minn.
Parsons, Ralph Ludvig	U. of Minn., M.B., 1930; M.D., 1931	Monterey, Minn.
Peterson, Vernon L.	Washington Univ. Sch. of Med., M.D., 1929	932 2nd St. S.W., Rochester, Minn.
Popp, Walter Charles	U. of Pittsburgh, M.D., 1929	718 5th St. S.W., Rochester, Minn.
Rea, Charles Ethan	U. of Minn., M.B., 1930	255 W. George St., St. Paul, Minn.
Simons, Leander Theodore	U. of Minn., M.B., 1930	Chaska, Minn.
Thayer, Ellsworth Albert	U. of Minn., M.B., 1931	2712 Bryant Ave. S., Minneapolis, Minn.
Tift, Cyril Richardson	U. of Minn., M.B., 1930	St. Mary's Hospital, Duluth, Minn.
Tuohy, Edward Lawrence	U. of Minn., M.B., 1930; M.D., 1931	University Hospital, Minneapolis, Minn.
Weis, Benjamin Anthony	U. of Minn., M.B., 1930	Miller Hospital, St. Paul, Minn.
Whitlock, Merle Eugene	Indiana Univ., M.D., 1929	Mayo Clinic, Rochester, Minn.
Wilson, Viktor Ottman	U. of Minn., M.B., 1930	Ancker Hospital, St. Paul, Minn.
Zachman, Leo Lahr	U. of Minn., M.B., 1930	1253 Grand Ave., St. Paul, Minn.

## CANDIDATES BY RECIPROCITY

Hardgrove, Maurice A. F.	Columbia Univ., M.D., 1928	Mayo Clinic, Rochester, Minn.
McQuarrie, Irvine	Johns Hopkins, M.D., 1921	U. of Minn., Dept. Pediatrics, Minneapolis

## CANDIDATES NATIONAL BOARD CERTIFICATION

Rewbridge, Allan George	Harvard, M.D., 1926	823 Nicollet Ave., Minneapolis, Minn.
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EXAMINATION REPORT, JUNE 30, 1931  
(June)

## CANDIDATES BY EXAMINATION

NAME	SCHOOL AND DATE OF GRADUATION	ADDRESS
Abbott, Clyde Berthold	U. of Minn., M.B., 1930; M.D., 1931	Springfield, Minn.
Anderson, Waldo Paul	U. of Minn., M.B., 1931	1110 Glenwood Ave., Minneapolis, Minn.
Atkinson, Walter	Georgetown U., M.D., 1928	Mayo Clinic, Rochester, Minn.
Bagley, Elizabeth Colville	U. of Mich., M.D., 1927	501 Woodland Ave., Duluth, Minn.
Bulinski, Theodore John	U. of Minn., M.B., 1931	University Hospital, Minneapolis, Minn.
Chancellor, Orville Kelsey	U. of Minn., M.B., 1931	Northwestern Hospital, Minneapolis, Minn.
Crombie, Francis Joseph	U. of Minn., M.B., 1930; M.D., 1931	Miller Hospital, St. Paul, Minn.
Daley, David Micheal	U. of Minn., M.B., 1930; M.D., 1931	Lewiston, Minn.
Frary, Louise Grace	U. of Minn., M.B., 1930; M.D., 1931	5049 Dupont Ave. S., Minneapolis, Minn.
Goldish, Daniel Richard	U. of Minn., M.B., 1931	617 17th Ave. E., Duluth, Minn.
Hinckley, Robert George	U. of Wis., M.D., 1929	1616 6th St. S.E., Minneapolis, Minn.
Kilgady, Ross Miller	U. of Minn., M.B., 1931	5333 Columbus Ave., Minneapolis, Minn.
Lang, Leonard Adam	U. of Minn., M.B., 1928; M.D., 1929	University Hospital, Minneapolis, Minn.

Minor, Walter Jerome.....	U. of Minn., M.B., 1930; M.D., 1931.....	909 St. Anthony Ave., St. Paul, Minn.
Noth, Paul Henry.....	U. of Minn., M.B., 1931.....	4010 Pillsbury Ave., Minneapolis, Minn.
Oeljen, Siegfried C. G.....	U. of Minn., M.B., 1931.....	St. Luke's Hospital, Duluth, Minn.
Pearson, Bror Folke.....	U. of Minn., M.B., 1931.....	1621 7th St. S.E., Minneapolis, Minn.
Quanstrom, Virgil E.....	U. of Minn., M.B., 1931.....	1310 Pine St., Brainerd, Minn.
Robinson, Lloyd Wayne.....	U. of Colo., M.D., 1929.....	110 2nd Ave. S.E., Rochester, Minn.
Ruggles, George McCue.....	U. of Minn., M.B. and M.D., 1930.....	Asbury Hospital, Minneapolis, Minn.
Schultz, Peter J.....	U. of Minn., M.B., 1931.....	512 Delaware S.E., Minneapolis, Minn.
Skaug, Harold M.....	U. of Minn., M.B., 1931.....	1310 E. 18th St., Minneapolis, Minn.
Smith, Vernon D. E.....	U. of Minn., M.B. and M.D., 1931.....	339 Lowry Med. Arts Bldg., St. Paul, Minn.
Sorteberg, Edward Donald.....	U. of Minn., M.B., 1931.....	429 Union St. S.E., Minneapolis, Minn.
Thompson, Floyd Ammann.....	U. of Minn., M.B., 1931.....	University Hospital, Minneapolis, Minn.
Thorsness, Edwin Trueman.....	Marquette, M.D., 1927.....	Mayo Clinic, Rochester, Minn.
Walsh, William Edward.....	Marquette, M.D., 1928.....	Naval Hospital, Great Lakes, Ill.
Watson, C. Gordon.....	U. of Minn., M.B., 1930.....	St. Mary's Hospital, Duluth, Minn.
Weed, Vernon A.....	U. of Minn., M.B., 1930.....	916 E. 15th St., Minneapolis, Minn.
Youngs, Nelson A. Miles.....	U. of Minn., M.B., 1930; M.D., 1931.....	901 E. River Road, Minneapolis, Minn.

## CANDIDATES BY RECIPROCITY

Graff, Richard John.....	Loyola Univ., M.D., 1930.....	New Ulm, Minn.
Johnson, Ralph Bernard.....	Northwestern, M.D., 1929.....	Lanesboro, Minn.
Killion, John Jackson.....	U. of Tenn., M.D., 1930.....	Pine River, Minn.
McElligott, Edmund Wright.....	Rush, M.D., 1927.....	Morris, Minn.
Steinberg, Charles Leo.....	U. of Colo., M.D., 1928.....	936 Goodrich Ave., St. Paul, Minn.

## CANDIDATES NATIONAL BOARD CERTIFICATION

Wilkinson, H. Weldon.....	U. of Minn., M.B., 1929; M.D., 1930.....	Mayo Clinic, Rochester, Minn.
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# Minnesota State Medical Association

## Seventy-Eighth Annual Session

### Minneapolis, Minnesota

#### PROCEEDINGS OF THE HOUSE OF DELEGATES FIRST MEETING—MONDAY EVENING, MAY 4, 1931

The meeting of the House of Delegates of the Minnesota State Medical Association, held in the Ball Room of the Nicollet Hotel, Minneapolis, Minnesota, convened at 7:00 o'clock P. M., Dr. L. Sogge, Windom, President of the Association, presiding.

**PRESIDENT SOGGE:** The meeting will please come to order. The following have been appointed on the Credentials Committee: Dr. Wm. C. Carroll, St. Paul; Dr. John F. Fulton, St. Paul, and Dr. W. S. Broker, Battle Lake, which committee will report at this time.

**DR. CARROLL:** We have examined the credentials of the various delegates, and fifty-nine are present. The following delegates were present:

Blue Earth County—M. I. Howard, Mankato  
Blue Earth Valley—J. L. Mills, Winnebago  
Camp Release District—M. S. Nelson, Granite Falls  
Central Minnesota—H. C. Cooney, Princeton  
Chisago-Pine—F. F. Callahan, Pokegama  
Clay-Becker—M. C. Bergheim, Hawley  
Dodge County—F. D. Smith, Kasson  
Freeborn County—W. L. Palmer, Albert Lea  
Goodhue County—M. W. Smith, Red Wing  
Hennepin County—W. A. Fansler, E. K. Green, J. A. Myers, E. A. Loomis, J. M. Hayes, A. S. Hamilton, Ivar Sivertsen, Chas. R. Drake, Ralph Knight, H. B. Hannah  
Houston-Fillmore—Not represented  
Kandiyohi-Swift—C. L. Scofield, Benson  
Lyon-Lincoln—A. L. Vadheim, Tyler  
McLeod County—Not represented  
Meeker County—A. W. Robertson, Litchfield  
Mower County—O. H. Hegge, Austin  
Nicollet-LeSueur—Swan Ericson, Le Sueur  
Olmsted County—A. W. Adson, W. F. Braasch, J. E. Crewe, E. S. Judd, L. W. Pollock, W. A. Plummer, A. H. Sanford  
Park Region District—W. S. Broker, Battle Lake  
Ramsey County—W. C. Carroll, J. F. Hammond, J. C. Hultkrans, Arthur H. Pedersen, E. M. Hammes, John Ryan  
Redwood-Brown—Not represented  
Red River Valley—H. M. Blegen, Warren; O. E. Locken, Crookston  
Rice County—A. M. Hanson, Faribault  
St. Louis County—F. H. Magney, Duluth; J. R. Manley, Duluth; B. S. Adams, Hibbing; C. L. Haney, Duluth  
Scott-Carver County—F. C. Westerman, Montgomery  
Southwestern Minnesota—E. W. Arnold, Adrian; S. A. Slater, Worthington

Stearns-Benton County—J. P. McDowell, St. Cloud  
Steele County—A. B. Stewart, Owatonna  
Upper Mississippi—C. E. Anderson, Brainerd; F. W. Van Valkenburg, Long Prairie  
Wabasha County—D. S. Fleischhauer, Wabasha  
Waseca County—B. I. Saliterman, Janesville  
Washington County—E. S. Boleyn, Stillwater  
Watsonwan County—H. B. Grimes, Madelia  
West Central Minnesota—B. R. Karn, Ortonville  
Winona County—C. P. Robbins, Winona  
Wright County—E. Klaveness, St. Paul

**PRESIDENT SOGGE:** The minutes of the last session were printed in the October, 1930, number of MINNESOTA MEDICINE, and if there are no objections the minutes will be accepted without being read at this time. A motion was made and seconded that the reading of the minutes of the last meeting be dispensed with and the minutes accepted, which motion, being put to a vote, was carried.

We will now have the report of the Chairman of the Council. Dr. Workman.

#### MEETING OF THE COUNCIL

The Council of the Minnesota State Medical Association met at noon May 4, 1931. The following were present: Drs. L. Sogge, A. G. Schulze, M. S. Henderson, William A. Piper, H. M. Workman, J. S. Holbrook, F. J. Savage, N. O. Pearce, W. W. Will, O. J. Hagen, W. A. Coventry, George Earl, W. L. Burnap, W. A. Fansler, W. F. Braasch, C. B. Wright, E. A. Meyerding, O. E. Locken, J. R. Manley, H. M. Johnson, S. H. Boyer, F. E. Burch, W. C. Carroll, and H. M. Blegen.

The minutes of the last meeting of the Council held on February 7, were read and approved.

Dr. Locken, Chairman of the Special Committee to Study the Policies of the State Association, presented his report to the Council for its approval. A discussion followed and the report was referred to the House of Delegates.

At 2:00 P. M. the president called to order the meeting of the House of Delegates to abide with Chapter 5, Section I, of the By-laws. The meeting immediately adjourned.

The Council expressed its appreciation to Dr. Locken and the members of his committee for their work.

Mr. Van Riper of the Travel Guild, Incorporated, appeared before the Council submitting a proposition of a coöperative medical European tour to be conducted under the auspices of State Medical Journals. Motion made and seconded that the Council go on record as favoring the plan for MINNESOTA MEDICINE subject to the approval of the Editing and Publishing Committee.

The quarterly statement from MINNESOTA MEDICINE was read and approved.

A report of the budget expenditures to date was read.

A report of the Fiscal Agency Account was read and approved.

MOTION made by Dr. Coventry, seconded and carried, that the secretary be instructed to keep the budget expenditures as low as possible for the balance of the year.

MOTION made by Dr. Coventry, seconded and carried, that it be brought to the attention of the Editing and Publishing Committee that its report submitted this year was signed by Mr. Bruce and not by a member of the committee.

MOTION made by Dr. Coventry, seconded and carried, that the lunches for the members of the House of Delegates on Tuesday be paid for by the State Association.

Dr. Workman read a letter written by Dr. Hagen to the Red River Valley Medical Society.

MOTION made by Dr. Savage, seconded and carried, that Drs. C. B. Wright and J. T. Christison be recommended to the House of Delegates for reelection as delegate and alternate to the American Medical Association for a period of two years beginning January 1, 1932.

A report of the membership was read by the Secretary. There are now 2,006 paid members in the Association.

A list of the affiliate applications to the American Medical Association was read; these were as follows:

S. S. Hall, Minneapolis  
E. S. Strout, Minneapolis  
E. H. Whitcomb, St. Paul  
Chas. A. Van Slyke, St. Paul  
Wm. F. Wilson, Lake City  
L. K. Onsgard, Houston  
Warren Wilson, Northfield

MOTION made by Dr. Pearce, seconded and carried, that the new plan for the certificates bearing the name of the County Society and its secretary be tried out for a year and that they be signed in the State office and sent directly to the membership.

A uniform fiscal year for the component societies was discussed and it was suggested that this matter be brought before the House of Delegates.

The question of redistricting Chisago-Pine and the Central Minnesota Medical Societies was referred to Drs. Savage and Coventry, councilors of the district.

Dr. Meyerding read several letters received by Dr. Johnson from various members congratulating him on the splendid work of the Committee on Public Policy and Legislation.

A question of a Service Medal for worthy members of the Association was laid on the table until next year.

MOTION made by Dr. Coventry, seconded and carried, that the Council endorse the request that the Basic Science Board be authorized to transfer some of its funds to the State Board of Medical Examiners for legal expenses incurred in the enforcement of the Basic Science Law.

A communication from the American Medical Association showed that many of the County Societies have not answered the questionnaire sent to them regarding their public health educational activities. The Councilors were urged to see that the secretaries in their districts answer this form.

MOTION made by Dr. Savage, seconded and carried, that the budget of the Historical Committee be increased to \$750.00 as suggested in the report of this committee.

The following recommendation was submitted by the Committee on Public Policy and Legislation:

"TO THE COUNCIL OF THE STATE MEDICAL ASSOCIATION:

The Legislative Committee of the State Medical Association unanimously recommends, that in the publication in the register of the physicians licensed to practice in the State of Minnesota, some designation be made of those individuals who are members of the State Medical Association; provided this is not contrary to law.

H. M. JOHNSON  
M. O. OPPEGAARD  
C. B. WRIGHT  
F. J. PLONDKE  
N. G. MORTENSON.

Dr. Manley presented the report of the Reference Committee to the Council.

The meeting adjourned.

PRESIDENT SOGGE: You have heard the reading of the minutes of the meeting held by the Council. What do you wish to do with them?

A motion was made, seconded, put to a vote and carried, that the report be accepted.

PRESIDENT SOGGE: Next is the President's report.

I have no report to make, other than to say that I am very thankful to every member of the Association. It has been a wonderful pleasure to work with you because you do take hold, and when you have a membership that is willing to help and push, things come along very nicely. To expedite matters, because we have a good many things to consider, we thought we would follow this plan tonight: First, a report from the Reference Committee; then the Chairman of the committee will make remarks if he desires; then the subject will be open for discussion. We would like to hear on the floor of the House of Delegates anything anybody has to say. Don't be backward about speaking your opinion, because that is the only way we can learn how to carry out the work of the House of Delegates more efficiently. We have the Reference Committee, but that is simply to help us along—to go a little faster; it does not mean that we want to shut off any discussion. First in order is to head the Reference Committee on the Secretary's report.

#### REPORT OF THE SECRETARY

The past year has seen a steady increase in the routine work in the secretary's office. We regret to say that the committees, however, have not been as active as in the previous years—that is, their demands for services from the secretary's office have been smaller. Individual members, on the other hand, are learning,

more and more, of the service that is available through the secretary's office. This accounts for the increase in the routine.

The demand upon the secretary's time, by the medical profession, has increased materially. During the past year the Secretary, personally, has been required to devote much more time than in the past to the needs of the various committees and local organizations.

#### NEWSPAPER SERVICE

The number of papers accepting this service has increased during the past year. We believe that its educational and general character has improved also. This is undoubtedly due to the fact that we are now writing our stories in our own office. The total number of papers accepting this service is 300. It is urged that the local physicians call these stories to the attention of their local papers, that they find out when the stories are published, and ask editors who do not publish them, why they are not doing so. All stories are censored by the Committee on Public Health Education.

#### COMMITTEES

During the past two or three years, our Committees have increased in size and number. It has been suggested that the committees are too large and unwieldy. The experience of the Secretary is that committee membership is always regarded as an honor. It might be advisable, however, to have an Executive Committee of three or five where the committees are large. The size has increased, due to the demand for geographical representation.

#### SERVICE TO STATE BOARD OF MEDICAL EXAMINERS

The new Medical Practice Act and Basic Science Laws have been so well enforced that a large portion of the members write to this office giving information of violations of these acts. This office has cooperated closely with the State Board of Medical Examiners and wishes to express its appreciation, particularly, of the services rendered by the Secretary of the Board.

#### COMMITTEE ON HOSPITAL AND MEDICAL EDUCATION

This Committee has been active in the past year in furthering post-graduate education amongst the membership. The Short Courses conducted by the Extension Division of the University of Minnesota have been successful as also were the new series of colloquium lectures. This service is of the highest value to our organization.

#### PAST PRESIDENTS

During 1930 the then President, S. H. Boyer of Duluth, Minnesota, visited practically every Medical Society in the State at a great expense and inconvenience to himself. Dr. Boyer has now placed himself as a competitor to his predecessor, Dr. C. B. Wright of Minneapolis. Both men were very active.

#### SEVENTY-SEVENTH ANNUAL MEETING AT DULUTH

This meeting was undoubtedly the most successful from a scientific, business, social, in fact from every aspect that your present Secretary has participated in. The local committees were very cooperative and very

hospitable. The total attendance was 667, the largest ever held outside the Twin Cities.

#### HEADQUARTERS

The present arrangement for cooperation with the Minnesota Public Health Association continues to be of mutual advantage to both organizations. The publication *Everybody's Health*, is conducted on as high an ethical plane as possible.

#### HEALTH MEETINGS

Speakers have been sent out by the Public Health Education Committee to various parts of the state and to various organizations, such as the Parent-Teacher associations, Women's Federation, et cetera. Health meetings were also conducted, in conjunction with the Minnesota Public Health Association in various parts of the State. Dr. Morris Fishbein talked before three state conventions here last year. Dr. Fishbein addressed at least 20,000 persons during his two days' stay.

#### SECRETARIES CONFERENCE

The county and district Secretaries' meeting was successful as usual. It therefore justifies its existence. Your secretary attended similar conferences in Iowa and Wisconsin.

#### PUBLIC RELATIONS

Your secretary was asked by the Secretary of the American Medical Association to present a paper last November at the Annual Conference of State Secretaries and Editors in Chicago. This paper was published in the January bulletin of the American Medical Association, and reprints have been sent to the members of our State Association. It should be a part of your Secretary's report to you today.

#### RADIO PROGRAM

The talks by Dr. W. A. O'Brien, University Hospital, Minneapolis, Minnesota, over Station WCCO are an unqualified success, not only in Minnesota but throughout the Northwest. They constitute one of the best investments that your organization has made.

#### EXPENSES

The expenses, other than the educational fund, have gradually increased due to the material growth, increased activities and the increase in the number of members taking advantage of the services offered. We have reached the limit of our expenditures. This is to be regretted as one of the most important phases of our educational work, that carried on by the Committee on Public Health Education, of which Dr. George Earl is Chairman, has not yet been thoroughly developed. It is now reaching the stage where more money should be expended. Greater activity is particularly necessary in our campaign for creating better Public Relations. Unless arrangements are made to increase the budget of this Committee the local societies will necessarily be obliged to increase their own activities as far as the public is concerned.

#### MALPRACTICE INSURANCE

During the past year our Insurance Company, which

is the Aetna, made the following unsolicited reduction in their rates:

\$10,000 to \$30,000.....\$21.00

This is the basic rate and this form of insurance is written by this company for members of the State Association only. The former rate was \$28.00.

The fact that the malpractice situation has improved and that reductions were therefore made possible, is undoubtedly due to our legislative program and condition of organization.

#### REPORT OF MEMBERSHIP

Name of Society	December 31, 1930	April 23, 1931	Affiliate	Associate	Total
Blue Earth County.....	30	31	1		32
Blue Earth Valley.....	23	22	5		27
Camp Release District.....	46	40	1		41
Central Minnesota District	13	13			13
Chisago-Pine County.....	19	13			13
Clay-Becker County.....	15	19	1		20
Dodge County.....	6	6			6
Freeborn County.....	18	18			18
Goodhue County.....	14	15			15
Hennepin County.....	524	495	23	7	525
Houston-Fillmore County..	21	21	1		22
Kandiyohi-Swift County....	21	23			23
Lyon-Lincoln County.....	18	17	1		18
McLeod County.....	12	13			13
Meeker County.....	8	9			9
Mower County.....	23	20	1		21
Nicollet-Le Sueur County..	19	18			18
Olmsted County.....	323	312		1	313
Park Region District.....	37	38			38
Ramsey County.....	286	280	17	1	298
Red River Valley.....	53	52			52
Redwood-Brown County....	30	31	3		34
Rice County.....	31	33	3		36
St. Louis County.....	176	174	5		179
Scott-Carver County.....	24	26	1		27
Southwestern Minnesota....	53	52	3		55
Stearns-Benton County....	42	40	4		44
Steele County.....	9	10			10
Upper Mississippi.....	67	61			61
Wabasha County.....	10	11	2		13
Waseca County.....	9	8			8
Washington County.....	13	11			11
Watonwan County.....	7	8			8
West Central Minnesota....	26	24			24
Winona County.....	24	26			26
Wright County.....	14	16			16
TOTALS.....	2,064	2,006	72	9	2,087

#### DAKOTA MEDICAL SOCIETY

There is none. The Council revoked the Dakota society charter because the physicians of Dakota County failed to comply with its provisions.

#### FISCAL YEAR OF THE COMPONENT MEDICAL SOCIETIES

At present there is no uniform date when the officers of the Component Medical Societies in Minnesota assume office. There are six dates set for the annual meetings of our thirty-six County Medical Societies. This irregularity makes it impossible for the state office to know who the officers of the component societies are. Frequently months elapse after a meeting before we are informed. It is suggested that the matter of a uniform date be considered. The following survey has been made in our office:

	ASSUMED OFFICE	DATE OF ELECTION
Blue Earth Valley.....	January	October
Central Minnesota District....	January	January
Clay-Becker County.....	January	December
Dodge County.....	January	September
Freeborn County.....	January	December
Goodhue County.....	January	January
Kandiyohi-Swift County.....	January	December
Lyon-Lincoln County.....	January	October
McLeod County.....	January	January
Meeker County.....	January	December
Nicollet-Le Sueur County.....	January	December
Park Region District and County Medical Society.....	January	October
Ramsey County.....	January	November
Rice County.....	January	December
Scott-Carver County.....	January	June
Southwestern Minnesota.....	January	November
Upper Mississippi.....	January	January
Washington County.....	January	December
Winona County.....	January	January
Chisago-Pine County.....	May	May
Redwood-Brown County.....	May	May
Stearns-Benton County.....	May	April
Wabasha County.....	July	July
Camp Release District.....	October	October
Hennepin County.....	October	May
Houston-Fillmore County.....	October	October
St. Louis County.....	October	October
West Central District.....	October	October
Wright County.....	October	October
Olmsted County.....	November	November
Steele County.....	November	November
Mower County.....	December	November
Red River Valley County.....	December	December
Waseca County.....	December	December
Watonwan County.....	December	December

(No card received from Blue Earth County)

#### REGIONAL CONFERENCE

A meeting of the Northwest Regional Medical conference was held on February 8, 1931, at the St. Paul Hotel, St. Paul. Six states were represented, as follows: Iowa, North Dakota, Wisconsin, South Dakota, Nebraska, and Minnesota. A report of this meeting was published in the April issue of MINNESOTA MEDICINE.

#### LEGISLATION

We believe that during the past legislative session our Committee on Public Policy and Legislation has



accomplished the greatest feat in its history as far as the welfare of the public and medical profession is concerned. The principle which declares that "every citizen has a right to select his own medical attendant" was sustained by the legislature. The set-back sustained in Minnesota by those interested in socialization will necessarily be long enduring.

## AUXILIARY

Your auxiliary has made unusual advances during the past year and is becoming an active and valuable aid. The Secretary wishes to compliment the officers of the auxiliary for their activities. The profession, as a whole, should recognize and foster this very valuable service.

## CONCLUSION

In conclusion it may be fairly stated that your association is making steadfast progress. It is today in the best condition of its history.

E. A. MEYERDING, *Secretary*.

DR. J. R. MANLEY (Duluth): You all have had a chance to study the Secretary's report. The Reference Committee has this to say: It is a very complete report and gives a comprehensive outline of the work of the Secretary's office. The Reference Committee moves its adoption.

PRESIDENT SOGGE: What do you wish to do with the report of the Secretary?

A motion was made, seconded and carried, that the report be accepted.

PRESIDENT SOGGE: Next is the report of the Treasurer.

## TREASURER'S REPORT

## RECEIPTS

Balance on hand Dec. 31, 1929.....	\$ 1,293.47
Dues, placed to checking account.....	20,880.00
Dues, placed to savings account.....	10,545.00
Total.....	\$31,425.00
Interest on savings funds.....	\$ 439.46
Interest on checking account.....	98.11
Refund .....	27.00
Total.....	\$ 564.57
Bruce Publishing Co., 1929 profits .....	1,081.52
Bills payable .....	2,000.00
Total receipts.....	\$36,364.56
Total disbursements.....	\$29,020.57
Balance on hand Dec. 31, 1930.....	\$ 7,343.99

## DISBURSEMENTS

Public Health Education Committee.....	\$ 5,899.06
Rent .....	300.00
Council .....	352.59
Miscellaneous .....	1,045.42
MINNESOTA MEDICINE .....	4,126.00
Bills payable.....	\$2,965; interest \$35 3,000.00
Annual meeting .....	1,844.80
Secretaries' Conference.....	446.73
Furniture and Fixtures.....	22.61
Stenographers and clerks.....	1,654.05
Secretary's traveling expenses.....	603.13

Legal expenses.....	58.00
Treasurer's salary.....	\$100.00; expenses \$3 103.00
Secretary's salary.....	3,600.00
Hospital and Medical Education Committee.....	215.10
State Health Relations Committee.....	3.29
Education Committee.....	5,117.03
Historical Committee.....	43.98
Printing .....	221.41
Auxiliary .....	57.37
Consultation Bureau.....	300.00
Refund in dues.....	15.00
Transferred to savings account.....	6,000.00

Total disbursements and transfers.....\$35,020.57  
Minus transfer to savings account.....\$ 6,000.00

Total Disbursements.....\$29,020.57

## STATEMENT OF CHECKING ACCOUNT

Balance on hand Dec. 31, 1929.....	\$ 1,293.47
Dues deposited to this account.....	20,880.00
Interest on checking account.....	98.11
Interest refund.....	27.00
Bruce Publishing Co.....	1,081.52
Transferred from savings fund—	
July 2.....	\$5,000.00
Oct. 1.....	7,000.00

Total.....\$12,000.00

Bills payable.....2,000.00

Total receipts for checking account.....\$37,380.10

Total disbursements and transfers.....35,020.57

Total in account on Dec. 31, 1930.....\$ 2,359.53

Outstanding checks Dec. 31, 1930:

Nos. 396, 398, 403, 405, 408.....655.56

Bank Balance on Dec. 31, 1930.....\$ 3,015.09

## STATEMENT OF SAVINGS ACCOUNT

Balance on hand Dec. 31, 1929.....	None
Dues deposited to this account.....	\$10,545.00
Interest.....	
April 1.....	\$105.45
July 1.....	166.50
Oct. 1.....	118.16
Dec. 31.....	49.35
Total .....	439.46
Transferred from checking account.....	6,000.00

Total.....\$16,984.46

Transferred to checking account:

    July 2.....\$5,000.00

    Oct. 1.....7,000.00

        Total ..... 12,000.00 |

Balance in savings fund.....4,984.46

Balance in checking fund.....2,359.53

Total balance on hand Dec. 31, 1930.....\$ 7,343.99

The above balance of \$7,343.99 on hand December 31, 1930, represents \$2,000.00 Bills Payable which must be paid for immediately after the first of the year, and

it represents \$750.00 in 1931 dues collected before December 31, 1930. Deducting these sums we have a true balance left of \$4,593.99.

A. G. SCHULZE, *Treasurer*.

DR. MANLEY: The Reference Committee approves this report and moves its adoption.

Thereupon the report of the Treasurer was adopted.

PRESIDENT SOGGE: Now comes the report of the Delegates to the American Medical Association.

DR. W. F. BRAASCH (Rochester): We reported last year as the Duluth meeting came right after the meeting of the American Medical Association in Detroit. We have nothing further to report.

PRESIDENT SOGGE: Dr. Wright will report on the Regional Conference.

DR. C. B. WRIGHT (Minneapolis): I think that has been very well covered in the April MINNESOTA MEDICINE, and there is also a little editorial in the May issue by Dr. Meyerding that covers the situation. But briefly, the Regional Conference was started by Dr. Braasch. We had the officers of Minnesota, Wisconsin, North and South Dakota to start with, and this last year Iowa, Nebraska and Montana were invited. The Montana delegates, however, did not get here. We had a very interesting meeting, and after this conference we realized that the problems which interest us interest all our neighbors. As you know, North Dakota has had a bad fight this last winter. They have been trying to pass a basic science law. Wisconsin is starting very active work in its association and has a remarkably active public health program. That organization is very progressive. We also had some very interesting men, like Mr. Wiprud, who is Secretary of the Medical Society of Milwaukee County. We also had the Managing Director of the Iowa Association, Mr. Blank, who discussed a plan for taking care of the Health of the Iowa poor. A rift in the lute, however, was the report that societies cannot practice medicine for profit. Another thing was the question of insurance by societies, but that was worked out by every one taking out insurance, and they have signed agreements with the counties in which they take care of their local problems and the county pays them a small amount for it. If any one would like to ask about the conference, I would be very glad to answer them. (No questions.)

A motion was made, seconded and carried, that the report be accepted.

PRESIDENT SOGGE: We will next take up the report of the Committee on Public Policy and Legislation, of which Dr. Herman Johnson is Chairman. I would like to say this about Dr. Herman Johnson—I like to compare him with Lindbergh. Lindbergh was the first to fly alone across the Atlantic Ocean, and I feel that Dr. Johnson was the first to "fly" in medicine in Minnesota. I feel that he is too big for Minnesota and we ought to have him in Washington, D. C., to protect our profession against socialized medicine. (Applause.)

DR. H. M. JOHNSON (Dawson): Mr. President and members of the House of Delegates: I want to tell you that the result of the activities of our Association and the result of its success is due not to one single man or individual, but to the coöperation of every one

in the Association and its officers. And that has been better this year than it has been in the past. I am not in a mood to speak very much tonight. I am sorry to tell you that I lost a man who was my partner for over thirty years. A week ago Sunday night he was taken with a stroke and never spoke again. It was Dr. A. A. Stemsrud. Many times I felt that I was abusing my associates by going away and staying away like I did and they worked hard and were not given any credit, while I was given lots of credit. Many times I said I had better stay home, and Dr. Stemsrud would always say, "You had better go, Herman, and do what little you can to put this Association on its feet, and when you get it going it can take care of itself, but now is the time when every one must do his duty." When I look at his death, a queer sensation creeps over me.

This year we had really believed there would not be much trouble. Of course, we feared the election. Those who worked and looked ahead and saw the returns in the primary knew pretty well what governor we were going to have. Governor Olson, I think, has kept his word with us, but we had to do all we could to be sure to get a good House and a good Senate. You know about these different cult bills that come up, and you know they always have to be followed. If you don't have a representative there looking after them, they will get you. I have always said we had as much power and money and influence as our opponents and would stay with them as long as it was necessary. There were many activities by certain interests in the fall campaign, and I thought another bill would come up which would try to set a price on the work done on industrial cases by medical men and also by the hospitals.

The thing you are interested in, I think, is what we took part in, and that was against the confirmation of Duxbury on the Compensation Board. The Legislative Committee and the Council have for two years been trying, through the Governor and every other way, to get him to live up to the law. We didn't change the law, but we helped to fix it so he was not confirmed, and therefore the next one that will be in, will be willing to live up to the law. It wasn't Duxbury, but it was the principle. He was dictating where a patient must go. The law is that the patient may choose his own doctor. He wrote letters to the patients telling them that unless they went to the doctor he specified, hospital and doctor bills would not be paid. That meant we had a lot of work to do. There is no question that men in the country, and I think men in the city, know that that class of patients was taken from the hands of the best doctors and sent to others. The insurance companies claimed that they could get it done cheaper elsewhere. I am sure the medical men did not charge them any unreasonable rate. All kinds of propaganda was used, and there is no question but what they tried to antagonize us in one way or another. But they did not succeed, and I am sure the medical profession stands closer together today than it ever did. And instead of weakening our position, it is now stronger than ever. While we had to fight against some of our

friends, we never need to fear, because as long as we are right we will come out ahead. We are stronger than ever because we are standing together better and better, and it is not due to any one man but due to the coöperation of all of us. The councilors stood one hundred per cent solid, and the President was there. My trouble came onto me when I should have laid off, but at a time like that you can't lay off.

We had a conference with the Governor and told him what kind of a man we wanted on the Industrial Commission—a good, square man, one who was an able lawyer with a judicial temperament and a judicial mind, and that we didn't want a man who was especially favorable to the laboring man or the medical man or the insurance man. And we felt also that we didn't want any Farmer-Labor man. I am not particularly against the Farmer-Labor party, but the law prescribes that the members of this Board shall be of different parties. The medical men tell me Mr. Gallagher of Waseca is as good a man as could be picked, and even the Republicans, those who fought for Duxbury so strongly and were very much interested in the insurance companies, told us he was all right, that it was a good appointment and they were well satisfied. Duxbury's policies were the beginning of state medicine. Maybe pretty soon half of the people will be protected by state insurance, and if the patients had to go where they were directed it would be a sad state of affairs.

We never, apparently, will get through with the quacks, but I think we have broken their backs more and more every year, because as the law is enforced more of them go to jail; but if we want to protect ourselves we absolutely have to fight every year.

Gentlemen, I want to thank you all and thank the committee. By standing together in the future like we have done in the past we can protect our interests, and our interest is our profession. I only wish our National Association was as active in looking after its interests as we are in this state; this state has become known throughout the country as one of the most aggressive states.

PRESIDENT SOGGE: It is wonderful for the Legislative Committee to be able to report one hundred per cent from a legislative session. I doubt if any other state could do the same. I think the Legislative Committee ought to be congratulated and thanked for its efforts, and with them Dr. Workman who spent a great deal of time in St. Paul looking after our affairs. Is there any discussion on this report?

DR. A. H. PEDERSEN (St. Paul): In the first place, I would like to know why a written report was not rendered. It seems to me the chairman should render a written report to the State Society. In the second place, while it is shown that \$5,000.00 was spent last year, I understand there was \$7,000.00 actually spent, and I cannot understand why \$7,000.00 was spent during a non-legislative year. Another thing is, have we really killed contract medicine? The University contracts to take care of students at a special rate. At Central High School in St. Paul we have free X-ray and Mantoux tests. Isn't that state medicine? Have we closed all the portals to state medicine? I feel the

societies which claim to be friendly to medicine are really antagonistic, because they have not said anything about paying for the examinations. I would like to hear why that money was spent.

DR. C. P. ROBBINS (Winona): I had the pleasure of being with the Legislative Committee last year. If any member would like to have information regarding how money was spent on legislative work, Dr. Johnson has had the accounts audited, and if any doctor is interested he can go to the Auditing Committee and get the information.

PRESIDENT SOGGE: Dr. Johnson, did you hear the question that was asked?

DR. JOHNSON: The Council has those matters in charge, and I think they have taken care of that part. Legislation goes on most all the time, and if you know anything about how things are done in the Legislature by other concerns you will know something about it. There was lots of work done. As to why it was not a written report, I think you have the report now. There was a report sent out, that is, a letter was sent out summarizing the activities during the session, but if you want another one, we will gladly furnish it.

PRESIDENT SOGGE: Where did you get the information that \$7,000.00 was spent?

DR. PEDERSEN: From Dr. A. G. Schulze.

DR. A. G. SCHULZE (St. Paul): I think you are mistaken on that. \$5,000.00 was the total.

PRESIDENT SOGGE: Are there any further questions?

DR. F. F. CALLAHAN (Pokegama): I would like to say something about the Mantoux tests in these cases of tuberculosis. I think if you are going to do anything to eradicate tuberculosis we must start at the root. If the practitioners can get the pupils in and do the work themselves, if they can convince the people that it is necessary, that will take care of the whole business. We have conducted some of these tests in the schools at Pine City. We were astounded at the results we found. We couldn't possibly get those people to come in as private cases. But when we found anything wrong with the patients, we referred them back to their private physicians for treatment. I know it is wholesale, but it is about the only way we can find the condition.

DR. WRIGHT: There seems to be some misunderstanding about this particular thing, and as I have been on the Legislative Committee for three sessions, I would like to say a word about it. I don't think the Mantoux tests in St. Paul schools have anything to do with this controversy. Possibly this gentleman does not know some of the things about this business that I do. When Dr. Johnson was asked to take the chairmanship of this committee, he specified two things only—One, that he should be given a budget, and that the Auditing Committee should audit it. I know the average professional man knows nothing at all about practical legislation. When I became a member of this committee I knew nothing about it, but I have learned considerable about this subject since. I know that you can't make an itemized report of any legislative activity and retain any influence whatever in the legislature. I doubt if any doctor here keeps an itemized report of his own personal expenditures. The way I feel about



it is this: I don't know what you think about our efforts in the last six years. That is a matter for you to decide. But please decide that we are going to do some legislative work—and we are going to do it effectively—or we are not going to do it at all, because you are not going to do any effective work if you tie the hands of your committee member and make him give a report of every dollar he spends. If there is any intelligent criticism of what we have accomplished, let's hear it. Let's hear something constructive about the legislative program. I have been working with Dr. Johnson for six years and I never found him doing anything that was not on the square. When he returned from the hospital, men in the legislature and men who have fought him—put their arms around him and said, "Herman, we are glad to see you back, let's get together and work for the next campaign," that means something.

DR. H. M. WORKMAN (Tracy): I have been Chairman of the Finance Committee, and am Chairman of the Council. At Dr. Johnson's request I have attended all the meetings and stayed in St. Paul when I should have been taking care of my own business. But I know where every dollar has gone. I can't do more than that for you. I have done it honestly. If any man wants to question my honesty he can do it. The money was spent honestly, and we got results. If anybody thinks we didn't get results I would like to have him say so.

DR. ROBBINS: We carried on the work at our own traveling and hotel expense and we never took a penny from the Legislative fund.

DR. S. H. BOYER (Duluth): It is my opinion that anybody who asks such questions as have been asked here has never served on any Legislative body. For several years I have heard these little nagging and creeping complaints and questions as to what has been done with this five cents or this two cent stamp. They seem to be bothered about what we are going to do with a nickel or a dime. You can't get any place with that stuff. You have to spend your money if you want to live. What did you have before you spent any money in this state, Doctor? Did you have any influence?

DR. PEDERSEN: No.

DR. BOYER: Are you proud of what we have done, or not?

DR. PEDERSEN: Absolutely.

DR. BOYER: It leads me to suspect that some of you question the integrity of our Council and Dr. Herman Johnson. I assure you that every dollar has been spent with wisdom and intelligence. It is my opinion that if twice the money had been spent that what we got would have been cheap. Today the profession in Minnesota sweeps on with a grandeur that is not surpassed by any other state in the Union. It covers everything we can reach to protect the state against quackery and state medicine. We can't reach all these things at once, but we hope to succeed in getting to them. You have mixed our legislative work with University relations work. That is a matter that should be considered en-

tirely separate and apart from what we are considering tonight.

DR. A. B. STEWART (Owatonna): I am on no committee, but when I read in the report what Dr. Johnson's committee has accomplished, instead of criticizing it I move that we give a rising vote of confidence for the work they have done.

PRESIDENT SOGGE: I would first like to know how many of the delegates here don't believe that they got value received for what was spent for the legislative work. When we get value received, what are we kicking about? I would like to hear from Dr. Slater on the Mantoux tests.

DR. S. A. SLATER (Worthington): This Mantoux test is something new. It has to be put on a firm foundation, and at the present time it is only in the experimental state. We know that the Mantoux test is a means of finding children who are infected with tuberculosis. We further know that the majority of children in whom we find the infection come from homes in which the infection exists. It is highly important that the Medical Association coöperate. When a child reacts to the test he is sent back to his family physician and he may look for the source of the infection. I think this is a very valuable means of finding the source of infection and eradicating tuberculosis. I believe the doctors are learning something about tuberculosis which will be of benefit to themselves as well as to their patients. And if the medical profession does not do what it should to eradicate tuberculosis, other forces will step in and do their part. With the medical profession conducting these tests I think the best results can be obtained without any danger of it becoming state medicine.

DR. W. S. BROKER (Battle Lake): During the past year we have conducted about 2,500 Mantoux tests on school children. It is almost impossible to get the children to go to a physician to get the test. In order to cover any ground at all it has to be done in what has been called a wholesale fashion. It has to be done in groups. I think for each child it is a very valuable experience. I think, far from being a detriment to the profession, it is going to be an advantage. The children are going to appreciate medical care and are going to have more work done and more attention paid to them than if it had not been done at all.

SECRETARY MEYERDING: It happens that in Ramsey County there is an organization known as the Ramsey County Public Health Association. The Minnesota Public Health Association has little to say about Hennepin, Ramsey and St. Louis Counties. But in Ramsey County we are conducting what is known as the Mantoux test. It is done by Dr. Geer. I think the question Dr. Pedersen presented is a matter for the Ramsey County Medical Society to take up rather than one for this Association. We all know that state medicine is one of our problems. It is just around the corner in the United States. Canada now has it. We just have to wait until some state legislature will pass a law creating state medicine. I might explain to you something that might be considered along the same line. That is heart disease. For several years there has been



a National association dealing with heart work. A few years ago a representative of that group came to me and asked if we would take it over. I did not care to consider it, but knew that if we did not, somebody else would; so we finally took it over. We have a heart committee in the State Medical Association, and the time is coming when the public will demand that we do something along the line like this tuberculin testing, social diseases, and so forth. If you don't recognize these movements and take a part and cooperate and assume leadership, somebody else will and you are going to be left in the background where you were all these years in the past. We have attempted to cooperate with the medical profession.

I think the most ideal example of what I am telling you about was done in Owatonna. A meeting was held there of the county medical society and the public health association. The family physician took care of those who were infected. Everybody who has a positive Mantoux reaction is referred to his physician for treatment, and I think it is a benefit to the medical profession as well as to the patient.

DR. WRIGHT: We have gone away from the question, our Legislative program. I think this is the vital thing that you are interested in, because you are spending your money on it. The thing I want is to hear you men discuss the legislative program. Possibly you don't know what was concerned in that Duxbury fight to start with. Two years ago they introduced a maximum fee bill. At that time three or four members of our committee tried to get in touch with Mr. Duxbury to discuss this bill with him. He said, "I have nothing to do with the bill, I am only on the Industrial Commission." We went before the Committee and were able to convince them that the bill would hurt the patient. In other words, if you put the maximum fee too low it will deprive them of all the care they need, and if you put the maximum fee too high it makes the insurance too high. So Senator MacKenzie, the sponsor of the bill, withdrew it. This year they tried to introduce a bill which would give the Industrial Commission the right to set the maximum fee; and when we found out the facts of the case, Mr. Duxbury admitted to Mr. Brist that he drew the bill himself. I will admit that I would not have had the nerve to go against Mr. Duxbury, because I knew what was behind him. I want to tell you that Mr. Fesler told me that if it were not for the demonstration of the power of the Medical Association in preventing the endorsement or confirmation of Mr. Duxbury, it would eventually have resulted in the loss of thousands and possibly millions of dollars to the hospitals and profession of this state. That is one of the things this committee has accomplished.

I would like to have some constructive and intelligent criticism about what has been done by this committee. But I think the mere discussion of how people spent a few dollars here or there is entirely outside the question.

DR. F. H. MAGNEY (Duluth): I am not on any of the committees, and personally I don't care to know where any of the \$5,000.00 has gone. I appreciate the

efforts of Dr. Johnson and this committee, but I have even failed to write to my legislators in compliance with the request of Dr. Johnson.

DR. B. S. ADAMS (Hibbing): I have known Herman Johnson ever since I went to school, and I know he is not only efficient but honest. I want to make a motion that we give Dr. Johnson a rising vote of thanks for the splendid work he has done.

A rising vote of thanks was then extended to Dr. Johnson.

DR. JOHNSON: I wish to thank you gentlemen. I beg no favors. I respect and admire the interest and enthusiasm you have shown, and the gentleman who has so much to complain about I want to tell him that if he knew more about what he talked he would not talk that way. I wish he was doing it himself.

PRESIDENT SOGGE: The next report is the report of the Committee on Public Health Education.

### REPORT OF THE PUBLIC HEALTH EDUCATION COMMITTEE

The Committee has continued its past policies of reaching the profession and placing before them problems that exist in their relations with the public. At the same time a consistent contact has been kept up with the public itself. The Chairman of this Committee is also a member of the Committee on State Health Relations and the Public Health Nursing Committee. These memberships are for the purpose of correlating the activities of the committees mentioned.

#### EXPENDITURES

We are presenting a financial statement that shows the various expenditures under definite heads. It will be noted that there are several expenditures that are not primarily the function of this Committee, but were made upon the request of the Council. Our total Annual Budget Expenditure is a financial statement of the activities of our Committee, plus other financial outlays voted by the Council.

#### FINANCIAL REPORT

##### 1930 Analysis of the Public Health Education Expenditures

Mr. Brist .....	\$ 479.09
News Service .....	1,300.90
Meetings—Public Health, Med. Economics, County Society, Officers Conferences, Public Health Nurses, etc.....	355.62
Sundries, Petty Cash, Telephone, Telegrams..	19.58
Stenographer .....	1,310.00
Misc. Postage and Printed Matter.....	78.81
Speakers Library Material.....	36.95
Radio .....	528.36
Speakers—State Annual Meeting at Duluth, Health Tours, etc. ....	767.68
Legislature—Hygeia and Everybody's Health..	314.50
A. M. A. Delegates Expense.....	168.80
Diphtheria Prevention Campaign.....	538.77
Total .....	\$5,899.06

## F. MANLEY BRIST:

Mr. Brist gave talks upon the activities of the Minnesota State Board of Medical Examiners and the operation of the new Medical Practice Act and Basic Science Laws. These talks were given to both medical and lay groups for the purpose of emphasizing the importance of the enforcement of medical laws. The following groups were addressed by Mr. Brist during the past year:

Nicollet—LeSueur County Society.  
Secretaries Conference.  
Mankato, Blue Earth County.  
Stillwater, Lions Club.  
Hennepin County Auxiliary.  
Colloquium Course at Winona.  
Wadena.  
Freeborn County.  
Mower County.  
Iowa State Medical Association.  
St. Cloud, Stearns-Benton County.  
Blue Earth Valley.  
Willmar-Kandiyohi-Swift County.  
Wabasha County.  
Olivia.  
Houston-Fillmore County Society.

## NEWS SERVICE

The weekly newspaper service has continued to grow and improve. Thanks in a large measure to the facilities offered by the Minnesota Public Health Association, who have made it possible for us to engage expert service at a minimum expenditure. The number of papers are gradually increasing, until we have now 300. A sub-committee is appointed to censor the newspaper stories.

## MEETINGS

*Public Health—Medical Economics—County Society—Officers' Conferences—Public Health Nurses*

Traveling expenses of various members of the Association were paid for attending meetings at which they spoke. These meetings consisted of Public Health meetings, Medical Economic meetings of the various county societies, and all Public Health Nurse groups.

## STENOGRAPHER

The Committee has always paid the salary from its budget of one of the employees at the State Office. While this employee is only giving part time to the Committee, yet the entire time of this person is being charged. Commencing with 1931 a pro-rata arrangement has been made whereby the salary will be distributed in a different manner.

## SPEAKER'S LIBRARY MATERIAL

Suitable material was purchased and distributed to the members of the Committee and for filing in our lay speaker's Library.

## RADIO

This series of talks are undoubtedly the most popular health talks in this section of the radio world. The Committee believes in Dr. O'Brien's talks from both

the scientific and organization standpoint and that they are well worth the cost.

## SPEAKERS—ANNUAL MEETING, HEALTH TOURS, ETC.

In this are included the fees necessary to be paid to lay speakers at various health meetings which we participated in and also the honorarium and expenses for two of the speakers at the last annual meeting in Duluth amounting to \$206.23.

Rev. Wm. C. Sainsbury of Fargo assisted at the following places:

Waseca County Public Health.  
St. Olaf College.  
Kandiyohi County P. T. A.  
Lyon Lincoln Medical Society.  
Women's Federated Clubs, Olivia.  
Comstock Federated Clubs.  
Glenwood Kiwanis, P. T. A. and High School.  
Detroit Lakes P. T. A., High School.  
Crookston Seal Sale Institute.  
Luverne Lecture at High School.  
Alexandria P. T. A. meeting.

## LEGISLATURE—HYGEIA AND EVERYBODY'S HEALTH

We have again the past year sent Hygeia and Everybody's Health magazines to the Legislature of Minnesota.

## A. M. A. DELEGATES EXPENSE

The Council ordered that the expenses of the delegates to the American Medical Association be drawn from our budget.

## DIPHTHERIA PREVENTION CAMPAIGN

As our part of the Diphtheria campaign, which the Minnesota State Board of Health, Minnesota Public Health Association and the Committee on Hospitals and Medical Education are sponsoring, we expended a considerable amount for posters that were distributed to the schools and other public places.

## CONCLUSION

While we aim to instruct the public as regards scientific medicine and have them realize that on the whole their best interest lies in the hands of the members of the State Association, a large part of our work is within the profession and might be considered organization work.

GEORGE EARL, *Chairman.*

DR. MANLEY: The Reference Committee commends the very valuable work of the Public Health Education Committee, and recommends that the activities of this committee be continued. We recommend the adoption of this report.

DR. GEORGE EARL (St. Paul):

In the four years in which we have been allowed a budget, we expended in 1927, \$2,033.77 out of an allowance of \$5,000.00; in 1928 we expended \$3,944.26 out of an allowance of \$7,000.00; in 1929 we expended \$4,304.15 out of an allowance of \$7,000.00, and in 1930 we expended \$5,899.06 out of an allowance of \$6,000.00; or during the four years of our existence we have expended only a part of what we were authorized.

Our reasons for this economy were: First, that the work was new and we desired to approach the subject cautiously. In the second place, by cooperating with the Minnesota Public Health Association, we were able to undertake the program with greater economy than probably any other State Association. Third, the work undertaken has been only in direct response to requests from the officers, council, county societies and members of the Association.

Such expenses as that of Mr. Brist in connection with the explanation of the operation and enforcement of the New Basic Science Law and the New Medical Practice Act to the Medical Profession; the Radio Committee's expense; the cooperation with the Legislative Committee by sending Hygeia and Everybody's Health to all the members of the Legislature; the A. M. A. delegates' expense; the foreign speakers to the Annual State Meeting in Duluth; and the stenographic and office expenditures in connection with a great many of the other Committees and activities have been charged to our budget.

A review of the present State Organization would show that we deal with questions of public health contact through the following Committees:

The Committee on State Health Relations.

The Radio Committee.

The Committee on Contract Practice.

The Committee on Medico-Legal Affairs.

The Committee on University Relations.

The Heart Committee.

The Committee on Schools for Laboratory Technicians.

The Committee on Public Health Education.

The Committee on Hospitals and Medical Education.

The Legislative and other Committees also have dealings with the public.

Medical leadership should be encouraged in the County as regards Public Health Association, Red Cross, Editorial and Legislature cooperation and other public contacts. The major portion of our committee's time and if you will look at the budget of the four years and especially the first years, the major portion of our committee's budget has been expended on encouraging such local leadership.

Anyone that has had any experience in this matter will realize the difficulty of securing local medical leadership. A few places have it and have put on excellent programs; this because of their own native ability. Where we find that such native ability does not exist it is just as difficult to promote it as it is in any other phase of life. From promoting county and local medical leadership has come the demand for a demonstration by the State Society in the form of radio talks, or newspaper service and of help on Public Health Meetings as the opening wedge of contact toward further establishing the relations that your Committee suggests. In the State of Minnesota there are millions of dollars spent annually effecting the question of Public Health Education. We have Corey, McFadden, and other newspaper service; Christian Science, patent medicine propaganda, League of Medical Freedom and Anti-

Vivisection Leagues; then all of the cults; further, lay organizations for tuberculosis, cancer and heart; and all of the forces of state medicine and state institutions, privately endowed institutions and all the private practice activities of our association members.

The problem for the Minnesota State Medical Association to determine is, first, shall we as an organization take any part in directing public health activities and in influencing public health opinion by any other method than that of our scientific achievements. Undoubtedly the scientific practice is the contribution that should take the vast majority of our energy, but if some public health education work is not undertaken will there be other forces without our help sufficient to counteract the aggressive attacks of those whom we believe to be in error on public health problems.

Our Committee has always felt that the best possible public contact depends on the scientific ability, public health attitude and willingness to undertake its individual share of advancing the cause of health by each one of the two thousand members of the Association in his daily medical practice and contacts of life. Of necessity some type of organization is advisable to help in some small measure with planning and demonstration.

DR. E. KLAVERNESS (St. Paul): Would it not be possible next year to save the expense of \$479.00 paid to Mr. Brist?

DR. EARL: I don't know if I am as well qualified to answer that question as the Council is. We are paying \$2.00 per year to the Board in whose employ Mr. Brist is, and they are a Board appointed by the State of Minnesota through the Governor. This Board would be subject to criticism if Mr. Brist did any work for us on time for which he is paid by them. Fortunately, Mr. Brist is a wonderful speaker before luncheon clubs, etc. We are able to secure this rather brilliant, able attorney for \$400.00 a year, and in my mind we should thank the State Board of Medical Examiners for letting us share Mr. Brist at this nominal expense. Does that answer your question?

DR. E. KLAVERNESS: Yes.

Upon motion regularly made and seconded the report was accepted.

PRESIDENT SOGGE: The next report is that of the Editing and Publishing Committee.

#### REPORT OF EDITING AND PUBLISHING COMMITTEE

It again becomes my privilege to submit a report on the publication of your journal, MINNESOTA MEDICINE, for the year. The period covered in the report is the calendar year of 1930.

The twelve numbers of the journal included in Volume XIII contained a total of 1290 pages, or an average of 107.5 pages for each issue, the largest number of pages that has ever been printed in any one year. Of this total, 938 pages were devoted to reading matter and 352 to the advertising section, making an average of 78.2 pages of reading matter and 29.3 pages in the advertising section for each issue. The total number of illustrations was 323. This is also the large-

est number of illustrations ever printed in the journal in one year. Had all this editorial material been supplied to the readers in book form, it would have been a volume of 1,200 pages with more than 300 illustrations.

The total number of articles published during the year was 131, 16 of which were case reports. Other case reports and discussions of interest to the medical profession were published in the Proceedings of the Minnesota Academy of Medicine and the Minneapolis Surgical Society.

Several changes have been made during the year in the personnel of the staff contributing to the progress section. This section, under the direction of Dr. Lewis M. Daniel of Minneapolis, has continued to be a definite service to readers of the journal. A section entitled Tuberculosis Abstracts has been added under the heading of Medicine. These Abstracts are direct reprints of the monthly bulletin of that name published by the National Tuberculosis Association. Another recent addition to the journal is the publication of the Proceedings of the Minneapolis Clinical Club.

The circulation of MINNESOTA MEDICINE for the year 1930 is reported as follows:

Members (paid) .....	2,053
Members (delinquent) .....	148
Non-member subscriptions .....	105
Miscellaneous copies distributed single copy sales, exchanges, complimentary, advertising, etc.....	369
Surplus on file .....	125

Total ..... 2,800

The following report of receipts and disbursements from the period January 1, 1930, through December 31, 1930, was submitted to the secretary of the Association in January, 1931:

#### CASH RECEIPTS

Display advertising .....	\$ 8,780.17
Illustrations .....	98.82
Member subscriptions .....	4,106.00
Non-member subscriptions .....	310.48
Advertising dividend .....	462.04
Total Cash Receipts.....	\$13,757.51

#### CASH DISBURSEMENTS

Journal expense .....	\$14,023.37
Discounts allowed:	
Advertising .....	\$1,205.01
Subscriptions .....	22.25    1,227.26
Total Cash Disbursements.....	\$15,250.63
Cash deficit for the period.....	1,493.12

It is much to our regret that the publication shows a deficit for the period. This is the first year since MINNESOTA MEDICINE was established more than thirteen years ago, that a deficit has been shown. This was due to two causes, the most important perhaps being the general business depression, general throughout the country, which had a serious effect upon our advertising volume. The other cause was the increased

cost of printing due to the fact that nearly 100 pages more were printed than during any previous year, and that a larger number of copies were printed and distributed than for any previous similar period. The editors also used a larger number of illustrations in the journal than for any other year, and this cost alone amounted to in the neighborhood of \$500 more than for any previous year.

Effective January 1 the advertising rates in the journal were advanced ten per cent. This advance applies to practically all the advertising contracts now in course of execution and to any new business which may be signed during the year. We are hopeful that this small increase in the advertising rates will serve to enlarge our volume, in conjunction with a greater volume of new business which we hope to obtain with improved conditions, to make a much more favorable showing for 1931 than was made for the previous year. Already, for the first quarter of 1931, we show an increase of approximately 15 per cent in volume of display advertising over the corresponding period for last year.

If the moderate improvement which has been shown in business conditions continues for the year, we believe that the amount of display advertising executed in the journal will be more than sufficient to prevent a deficit for this year. It should be borne in mind, however, that the sale of advertising is largely contingent upon a maintenance of the improvement in business conditions. The experience of MINNESOTA MEDICINE during 1930 is not unlike that of practically every other publication of a similar character in the whole country last year. As a matter of fact, daily newspapers and large magazines similar to the Saturday Evening Post and the Ladies' Home Journal and others of that type, showed an enormous loss in lineage. It is a condition over which we, of course, have no control, but you may rest assured that we are putting forth every possible effort to maintain and increase our volume for this year.

Respectfully submitted,  
J. M. ARMSTRONG, Secretary.

DR. MANLEY: The Reference Committee moves the adoption of this report.

Upon motion regularly made and seconded the report was adopted.

PRESIDENT SOGGE: The report of the Radio Committee.

#### REPORT OF THE RADIO COMMITTEE

One hundred and sixty-four radio programs were broadcast under the direction of the Radio Committee from April 3, 1928, to May 1, 1931. With the exception of two programs from Station KSTP, all have been sent from Station WCCO. A complete list of the programs up to June 1, 1930 (117), may be found in MINNESOTA MEDICINE, Proceedings of Sixty-second Annual Meeting, xiii, 750:751, October 1930. From June 1, 1930, to May 1, 1931, forty-seven additional programs have been broadcast:

Subjects: (1) Cardiac Neurosis; (2) Minnesota De-



partment of Health; (3) Pyelitis in Young Girls; (4) Pituitary Gland; (5) Vacation Time; (6) Growth in Childhood; (7) Cause of Hernia; (8) Facial Neuralgia; (9) Common Foot Disorders; (10) Poison Ivy; (11) Knock Knees and Bow Legs; (12) Cause of Fever; (13) Cancer of the Stomach; (14) Bowel Obstruction; (15) Trench Mouth; (16) Cause of Flatulence; (17) Acne; (18) Finish the Job; (19) Cancer of the Rectum; (20) Father of Medicine; (21) Food Fads; (22) Finger Infections; (23) Poliomyelitis; (24) Treatment of Cataract; (25) Carcinoma of the Lip and Mouth; (26) Psoriasis; (27) Gallstones; (28) Mental Hygiene; (29) Christmas Seal; (30) Cancer of the Skin; (31) Carbon Monoxide Poisoning; (32) Peanut Bronchitis; (33) Cause of the Common Cold; (34) Cancer of the Breast; (35) Humidity in the Home; (36) Control of Diphtheria; (37) Treatment of Constipation; (38) Cancer of the Uterus; (39) The Rheumatic Child; (40) Treatment of Insomnia; (41) Cause of Meningitis; (42) Cancer of the Bladder; (43) Health Education; (Third Anniversary) (44) High Blood Pressure; (45) Health in the Home; (46) Nervous Exhaustion; (47) Cancer of the Kidney.

All have been sent from Station WCCO, Wednesday mornings at 11:15 a. m. The change from the earlier time (10:15 a. m.) was made during the winter months because of conflicting stock market reports. Station WCCO still continues to voluntarily ask our aid in censorship and has been most cooperative in this and other regards. Good publicity has been received during the past year from the papers and the station. In addition, special notices of the programs are being sent to various journals and publications which reach the medical nursing professions.

Abstracts appear every month under the title "Health from the Air," in Everybody's Health. The audience is apparently growing, and mail is still received from Minnesota, North and South Dakota, Iowa, Wisconsin, and Northern Michigan. Mail from interested listeners is becoming heavier as time goes on. In addition, the Committee has learned, directly and indirectly (from personal contacts), of the large number of people who are regular listeners and are pleased with the service. The attitude from the beginning has been to offer a message which was not too complicated for the ordinary layman to understand, and which contained something of practical interest for him. Interest in health grows with understanding. The air is polluted more than ever with quackery. The attitude of Station WCCO in this respect is commendable. In addition to furnishing us with the time and facilities for the program without charge, they have voluntarily excluded from their programs, anything which was not in accord with the type of service the medical association was attempting to render through health education. There is much work to be done along these lines with the other stations not only in Minnesota but through the country (chain broadcasts). The value of health education through sustained effort and constant repetition of certain ideas (although only a very small number of talks have been repeated) is very evident. We are now entering our fourth year of broadcasting (3rd

Anniversary, April 3, 1931) and believe that the future has even greater possibilities in store. The Committee urges that the programs be continued, and expresses its appreciation for the many favorable comments received on the service rendered.

We are making a survey of the broadcasting stations in Minnesota as to the type of advertising that is going over the air—whether it is ethical or not, etc. We regret that our data is not complete for this report.

L. R. CRITCHFIELD, *Chairman.*

DR. MANLEY: The Reference Committee believes that the work of this committee and that of Dr. O'Brien is of the utmost value. It particularly commends the committee for attempting the survey of stations broadcasting in Minnesota as to the type of medical advertising on the air—whether it is ethical or not. We move the adoption of this report.

The motion to accept the report was seconded and carried.

PRESIDENT SOGGE: The report of the Historical Committee.

# REPORT OF THE HISTORICAL COMMITTEE

At the banquet of the state meeting of the Minnesota State Medical Association in June, 1927, Dr. C. H. Mayo called attention to the advisability of preparing a medical history while we have the older members still with us. The report of the Council meeting of October 12, 1927, contains a motion by Dr. Wattam that a historical committee be appointed by Dr. Wright to gather data concerning the history of the Minnesota State Medical Association. A committee of seven was subsequently appointed and has since been at work gathering material for a history and preparing it for publication.

Two formal reports have since been made to the Council and House of Delegates and one to the society, outlining the headings under which we have planned to write the history. In 1929, we stated at some length our troubles in securing necessary facts, in arranging them in readable form and the long labor of corroborating data from sources often untrustworthy.

Material for our history has come in slowly. Though a number of the chapters are now practically ready for printing, there are others on which we have made no progress whatever and it now seems to us that we shall be obliged to find someone else to write certain chapters. Under these circumstances, parts of our history will be much delayed.

Under similar conditions, some of the states have brought out their history in volumes appearing at such times as the accumulation of material has permitted. Your committee recommends similar action in respect to the Minnesota history and we believe we now have on hand material sufficient for Volume No. 1. Of course, the contents should be such that each chapter will bear some natural relation, as chronological, to other chapters, though we will also have to be governed somewhat by the actual material available.

We believe we could have ready for the first volume something concerning the real pioneers, such as certain medical men who were associated with the early

fur companies; Dr. Williamson, the medical missionary; Major Purcell, who came here as the medical officer to the troops to build Fort Snelling, and John Marsh, who was his pupil. The history of the Minnesota State Medical Association and of the Ramsey and of the Hennepin County Medical Societies is already typed. We also have a manuscript of a few pages, prepared by a Dr. Fairchild, who was here in very early days and who wrote a most interesting article concerning pioneer conditions. Dr. Clark, of the Soldiers Home, had an article years ago on the physicians of the St. Croix Valley and we believe we could get ready something concerning the Winona group which was a very distinguished lot of men and perhaps the Red Wing men and the Duluth group and something concerning the early physicians of the Minnesota River Valley.

This would give a group of articles, all dealing with very early times, and would be sufficient to make one volume of about the size that we agreed upon as satisfactory when we adopted in a tentative way such a volume as the Michigan State Society has put out, a copy of which is on exhibition. Though we have entered on no formal arrangement with anyone, we have had the advice of Mr. Bruce, publisher of MINNESOTA MEDICINE, and we expect to prepare a volume about seven by ten inches and containing about nine hundred pages. The history of the Michigan State Medical Society seems to us very desirable in size, form and general appearance.

Michigan has 3,476 members in its State Society and they published 1,100 copies of a two volume history or 2,200 books. Minnesota has 2,227 members in its State Association and Mr. Bruce suggested that we publish 1,000 copies, bind 500 copies and use the remainder when needed. If we prepare one volume of 900 pages, it would cost about \$2,900 to \$3,200 with index and plates. If we prepare two volumes, and we think this will be necessary, of about 900 pages each, it will cost us something like \$5,000 to \$6,000 for the two volumes. This would include the index and a reasonable number of plates.

The eventual cost to the State Association is a matter of much importance. Illinois, with a State Society membership of 7,361, at \$5.00 per volume, sold 500 copies of the first volume, or a percentage of practically seven. Michigan, with a membership of 3,476, at \$5.00 per volume, also sold 500 copies, or a percentage of fourteen. Nebraska, with an Association membership of 1,207, at \$15.00 per copy, sold to 25 per cent of the members. North Dakota with a State Association membership of 391, at \$3.50 per volume, sold copies to 55 per cent of its members. These figures show a very wide range in the percentage of copies sold to members in the different states.

We advise that our history be published in two volumes of 1000 copies each, each volume containing 900 pages, and that Volume No. 1 be put into type as soon as is reasonably possible. We also advise that 500 copies of Volume No. 1 be bound as soon as printed and be sold at \$5.00 per copy or volume. We further advise that there be a preliminary canvass of the entire

Association membership so that we may have some idea in advance of publication of the number of books needed. Naturally, the result of this canvass may make some change in our plans.

Up to date, practically all work on the history, including even the typing has been done gratuitously by individual members of the Association, but we feel that in the course of the ensuing year, the time will arrive when certain expenses must be borne by the Association. Someone should conduct a preliminary canvass of the medical men of the state. Secretarial assistance will be necessary in the proof-reading and the preparation of the index besides certain typing which should not be left to the Committee's personal secretaries. We have not meant to imply that there has been any shortage in money supplied us in the past. On the contrary, we have at all times been allotted a much larger sum than we have ever used. It has merely been a case that in the many more or less minor situations that have arisen, it was not convenient to ask for outside assistance.

We have no definite idea as to just what these special situations will call for, but we estimate an index at something like \$175.00 and the bill for rewriting copy preliminary to publication will be at least \$250.00. As far as we can judge, \$750.00 is a fair sum to add for these special situations and this is in addition to the cost of final publication as referred to previously.

If the Association authorizes the publication of Volume 1 at this time, we will make an attempt to have it ready for the 1932 meeting, but previous experience has made us cautious in giving definite promises.

ARTHUR S. HAMILTON, *Chairman.*

DR. MANLEY: The Reference Committee realizes the value of this important work and recommends that the question of the time of publication, expenditure of money, and so forth, be referred to the Council for action.

DR. A. S. HAMILTON (Minneapolis): Mr. Chairman and Members of the House of Delegates: We have already presented a formal report on this subject and explained our views as well as we could. Anyone who has looked over the report will observe a very great difference in the sale of the copies. In North Dakota they sold 55 per cent of the members of the society, and in Illinois about 7 per cent. There should be a careful investigation over the state to see how many are willing to purchase a publication of this sort. If anyone has any questions about the matter, I would be glad to answer them if I can.

DR. ROBBINS: I move that the report be adopted.

The motion was regularly seconded, put to a vote and carried.

PRESIDENT SOGGE: Next is the report of the Necrologist.

## NECROLOGIST'S REPORT

May, 1930, May, 1931

MEMBERS OF MINNESOTA STATE MEDICAL ASSOCIATION

ANDREW E. ANDERSON, Minneapolis. Born 1859. Colorado University. Died, Dec. 11, 1930. Aged 71.

- CHARLES RIGGS BALL, St. Paul. Born 1867. University of Minnesota, 1894. Died, Dec. 19, 1930. Aged 63.
- BERNHARD STANTON BOHLING, Sandstone, Minn. Born 1887. Northwestern University, 1912. Died, Dec. 20, 1930. Aged 43.
- DWIGHT F. BROOKS, St. Paul. Born 1849. Long Island College Hospital, 1876. Died, January 21, 1930. Aged 81.
- THEODORE BRATRUD, Warren. Born 1873. University of Minnesota, 1898. Died, Dec. 6, 1930. Aged 57.
- ALFRED ERWIN COMSTOCK, St. Paul. Born 1872. Hahnemann Medical College of Chicago, 1899. Died, July 24, 1930. Aged 58.
- CHARLES FREDERICK DISEN, Minneapolis. Born 1861. Rush Medical College, Chicago, 1886. Died, August 6, 1930. Aged 69.
- FREDERIC A. DUNSMOOR, Minneapolis. Born 1853. Bellevue University. Died, Dec. 16, 1930. Aged 77.
- BRAINERD PEASE FLINN, Redwood Falls. Born 1892. Rush Medical College, Chicago, 1918. Died, March 3, 1931. Aged 39.
- LUTHER LEWELLYN GIBBON, Lowry. Born 1876. University of Minnesota, 1897. Died, May 24, 1930. Aged 54.
- ALFRED BENJAMIN HART, JR., Owatonna. Born 1902. St. Louis University School of Medicine, 1925. Died, Jan. 4, 1931. Aged 29.
- WALTER B. HOLMES, Ada. Born 1866. University of Minnesota, 1894. Died, Oct. 27, 1930. Aged 64.
- AUGUST ELOF JOHNSON, Minneapolis. Born 1869. Hamline University, Minneapolis, 1906. Died, Oct. 19, 1930. Aged 61.
- WILLIAM A. JONES, Minneapolis. Born 1859. University of the City of New York, 1881. Died, Jan. 15, 1931. Aged 71.
- JOHN A. LYG, Minneapolis. Born 1864. University of Minnesota, 1890. Died, Sept. 27, 1930. Aged 66.
- O. S. NESETH, Kenyon. Born 1886. University of Illinois, 1917. Died, April 23, 1931. Aged 45.
- J. P. O'CONNOR, St. Paul. Born 1869. Minneapolis Physician's and Surgeon's College, 1900. Died, March 2, 1931. Aged 62.
- WILLIAM PHELPS ROBERTSON, Litchfield. Born 1887. Detroit College of Medicine and Surgery, 1912. Died, Oct. 21, 1930. Aged 43.
- ANDREW SODERLIND, Minneapolis. Born 1862. University of Minnesota College of Medicine and Surgery, 1890. Died, March 22, 1931. Aged 69.
- A. A. STEMSRUD, Dawson. Born 1872. University of Minnesota, 1901. Died, April 27, 1931. Aged 59.
- FRED A. SWARTWOOD, Waseca. Born 1860. Medical College, Ann Arbor, Michigan, 1886. Died, Nov. 12, 1930. Aged 70.
- JOHN CHARLES DREXLER, Brandon, Minn. Born 1851. Died, Jan. 22, 1931. Aged 79.
- WILLIAM HENRY HALLOWELL, Minneapolis. Born 1853. University of Pennsylvania School of Medicine, 1880. Died, Dec. 14, 1930. Aged 77.
- OLAF E. KROGSTAD, Minneapolis. Born 1862. University of Vermont College of Medicine, Burlington, 1893. Died, May 14, 1930. Aged 68.
- GEORGE ALLEN LOVE, Preston. Born 1851. Bennett College of Eclectic Medicine and Surgery, Chicago, 1874. Died, Dec. 4, 1930. Aged 79.
- CHARLES M. LONG, Osakis. Born 1849. Rush Medical College, Chicago, 1878. Died, Aug. 3, 1930. Aged 81.
- JACOB WRIGHT MAGELSEN, Rushford. Born 1844. Rush Medical College, Chicago, 1866. Died, Jan. 9, 1931. Aged 87.
- HERTZ NATHANIEL MELECK, Minneapolis. Born 1880. Medical Department, Hamline University, 1903. Died, March 27, 1931. Aged 51.
- S. P. MEREDITH, Mankato. Born 1852. Hahnemann Medical College and Hospital, Chicago, 1882. Died, Sept. 30, 1930. Aged 78.
- WALTER ARTHUR MONNICH, Minneapolis. Born 1884. Baltimore Medical College, 1910. Died, Aug. 28, 1930. Aged 46.
- LOUIS LEYPOLDT MOENCH, Waterville. Born 1876. Eclectic Medical Institute, 1903. Died, June 2, 1930. Aged 54.
- CHARLES I. REMINGTON, Walnut Grove. Born 1860. College of Physicians and Surgeons, Keokuk, Iowa, 1879. Died, July 3, 1930. Aged 70.
- JOHN FREDERICK RUSS, Blue Earth. Born 1866. University of Iowa, 1893. Died, Aug. 13, 1930. Aged 64.
- M. L. STIFFLER, St. Paul. Born 1887. University of Colorado, 1913. Died, Sept. 7, 1930. Aged 43.
- LOUIS LEONARD TEN BROECK, Minneapolis. Born 1876. Rush Medical College, Chicago, 1907. Aged 54.
- FRANK L. WILCOX, Walker, Minn. Born 1877. Rush Medical College, Chicago, 1900. Died, Aug. 29, 1930. Aged 53.
- ULYSSES G. WILLIAMS, Minneapolis. Born 1865. University of Minnesota, College of Medicine and Surgery, 1889. Died, Jan. 13, 1931. Aged 66.
- OESTEN K. WINBERG, Lake Park. Born 1864. University of Minnesota, College of Medicine and Surgery, 1892. Died, Dec. 27, 1930. Aged 66.
- CHRISTOPHER J. WOOLWAY, Duluth, Minn. Born 1854. McGill University Faculty of Medicine, Montreal, 1875. Died, Oct. 28, 1930. Aged 76.

DR. OLGA S. HANSEN (Minneapolis): It seems but right and fitting that in the midst of this manifestation of the things that are of immediate interest to us we stop for a few moments to pay tribute to the members who have died during the past year. The names of twenty-one members have come to the attention of the committee. You know the names and you will recognize those of personal friends and others who have done very much for the cause of medicine in this state. "For them life's duration was measured by deeds done, and not by years lived. Nothing is here for tears, nothing to wail or knock the breast; no

PHYSICIANS NOT MEMBERS OF STATE ASSOCIATION  
AT THE TIME OF DEATH

- WILLIAM A. CHAMBERLIN, Waseca. Born 1856. Rush Medical College, Chicago, 1882. Died, Sept. 27, 1930. Aged 74.
- ALEXANDER AUGUSTUS CIRKLER, Minneapolis. Born 1865. University of Berlin, 1893. Died, Dec. 30, 1930. Aged 65.



weakness, no contempt, dispraise or blame, nothing but well and fair and what may quiet us in a death so noble."—(Milton.)

PRESIDENT SOGGE: As a mark of respect for those who have passed on, let us stand a moment in silence.

The audience rose and stood in silence.

The Report of the Committee on Hospitals and Medical Education.

#### REPORT OF THE COMMITTEE ON HOSPITALS AND MEDICAL EDUCATION

The new committee chairman is presenting herewith his first report of the Committee on Hospitals and Medical Education. The wholehearted coöperation of Mr. Richard Price of the Extension Division of the University of Minnesota has made possible the following list of lectures during the past year. In addition, there is appended a report from Dr. W. A. O'Brien which itemizes the work of the Consultation Bureau.

In the near future a new booklet containing titles and a short abstract of each lecture will be sent to the secretaries and correspondents of every county society.

We hope to enlarge the scope of this committee during the coming year. We solicit the constructive criticism of every member of the state society, hoping that this will make it possible for us to improve our lectures so that they will become more popular.

#### REPORT OF EXTENSION COURSES

June 1, 1930, to May 31, 1931

Below is a summary of the medical short courses conducted by the General Extension Division since May, 1930:

#### HAWLEY

July 12—Dr. Owen H. Wangenstein—The Diagnosis and Treatment of Acute Intestinal Obstruction.

Cost—\$33.00

#### FERGUS FALLS

Oct. 1—Dr. G. B. Eusterman, Rochester—Gastro-Intestinal Disease.

Oct. 15—Dr. Moses Barron, Minneapolis—Hypertension.

Nov. 12—Dr. G. B. Doyle, Rochester—Neurological Diagnostic Methods.

Nov. 19—Dr. H. G. Irvine, Minneapolis—Skin and Syphilis.

Nov. 26—Dr. Wallace Cole, St. Paul—Orthopedic Surgery.

Dec. 3—Dr. J. M. Hayes, Minneapolis—Treatment of Varicose Veins and Ulcers.

Cost—\$75.00. Average attendance—18.

#### HIBBING

Sept. 4—Dr. Emil Geist, Minneapolis—Personal Experiences with the Böhler Treatment of Fractures.

Sept. 18—Dr. F. W. Spicer, Duluth—Heart Diseases.

Sept. 25—Dr. W. A. Coventry, Duluth—Abnormal Menstruation, Especially Painful Menstruation, and Abortion.

Oct. 2—Dr. W. F. Braasch, Rochester—Hematuria.

Oct. 16—Dr. E. L. Tuohy, Duluth—Non-Tuberculous Chronic Lung Conditions.

Oct. 23—Dr. A. S. Hamilton, Minneapolis—Examina-

tion of Cases for Testifying in Court, Especially Compensation Cases.

Oct. 30—Dr. S. H. Boyer, Duluth—Status of State Medicine.

Nov. 6—Dr. Leo Rigler, Minneapolis—Diagnosis of Bone Diseases (Not Tumors), Especially Adolescent. Cost—\$185.00. Average attendance—25.

#### LITTLE FALLS

Oct. 1—Dr. W. E. Patterson, Minneapolis—Diseases of the Nose, Throat and Accessory Sinuses.

Oct. 8—Dr. Moses Barron, Minneapolis—Diabetes.

Oct. 15—Dr. E. M. Hammes, St. Paul—Problems in Diagnosis between Functional and Organic Nervous Diseases.

Oct. 29—Dr. E. S. Platou, Minneapolis—Contagious Disease Symposium.

Nov. 5—Dr. H. E. Michelson, Minneapolis—Dermatological Clinic (Lantern).

Nov. 12—Dr. Gilbert J. Thomas, Minneapolis—Prostatic Disease.

Nov. 19—Dr. C. W. Waldron, Minneapolis—Oral Surgery.

Dec. 3—Dr. H. M. N. Wynne, Minneapolis—Gynecology.

Cost—\$120.00.

#### MARSHALL

Sept. 30—Dr. Rood Taylor, Minneapolis—Disease and Disturbance of Digestion in Infancy and Childhood.

Oct. 14—Dr. P. W. Giessler, Minneapolis—General Orthopedics.

Oct. 28—Dr. J. S. Lundy, Rochester—Local, Spinal, and Sacral Anesthesia, etc.

Nov. 4—Dr. W. H. Goeckerman, Rochester—The Relationship of Dermatoses to General Medical Problems.

Nov. 18—Dr. H. C. Habein, Rochester—General Medicine.

Cost—\$115.00. Average attendance—30.

#### OLVIA

Sept. 8—Dr. H. B. Zimmerman, St. Paul—Acute Abdomen.

Sept. 22—Dr. L. A. Brunsting, Rochester—Itching Skin.

Sept. 29—Dr. E. M. Hammes, St. Paul—Problems in Psychiatry.

Oct. 6—Dr. H. M. N. Wynne, Minneapolis—Gynecology.

Oct. 13—Dr. W. A. Plummer, Rochester—Goiter.

Oct. 27—Dr. S. M. White, Minneapolis—Heart.

Nov. 3—Dr. A. F. Bratrud, Minneapolis—Injection of Varicose Veins.

Nov. 10—Dr. Norman M. Keith, Rochester—Dehydration.

Nov. 24—Dr. W. W. Lewis, St. Paul—Middle Ear.

Dec. 1—Dr. C. W. Waldron, Minneapolis—Oral Diseases.

Cost—\$130.00. Average attendance—19.

#### WINONA

Jan. 14—Dr. F. A. Willius, Rochester—Some Principles Underlying the Treatment of Heart Failure.

Jan. 28—Dr. Norman M. Keith, Rochester—Diagnosis and Treatment of Nephritis.

Feb. 11—Dr. W. A. Fansler, Minneapolis—Diseases of the Rectum.



- Feb. 25—Dr. W. A. Plummer, Rochester—Diseases of the Thyroid.  
 Mar. 11—Dr. J. F. Weir, Rochester—Jaundice.  
 Mar. 25—Dr. B. F. Davis, Duluth—Traumatic Infections.  
 Apr. 8—Dr. W. H. Goeckerman, Rochester—Dermatosis.  
 Cost—\$92.00.

MANKATO

- Dec. 4—Dr. Moses Barron, Minneapolis—Cardiac De-compensation and Treatment.  
 Dec. 11—Dr. G. B. Eusterman, Rochester—Unfamiliar Lesions of the Stomach, with Differential Diagnosis.  
 Dec. 18—Dr. Edward Cathcart, Rochester—Infections of the Lower Urinary Tract.  
 Jan. 8—Dr. John F. Madden, St. Paul—Dermatology.  
 Jan. 15—Dr. F. J. Hirschboeck, Duluth—Borderline between Internal Medicine and Psychiatry.  
 Cost—\$96.00. Average attendance—15.

DULUTH

*Colloquium Series, Winter of 1931*

- Correspondent—Dr. F. J. Hirschboeck, Duluth, Minnesota.  
 Dec. 15—Dr. W. A. O'Brien—Pathology.  
 Dec. 29—Drs. S. H. Boyer, L. Sogge, N. O. Pearce, E. A. Meyerding—Meeting under the Auspices of the State Medical Association.  
 Jan. 12—Drs. J. A. Myers, Walter H. Ude, A. T. Laird—Meeting under the Auspices of the Minnesota Public Health Association.  
 Jan. 26—Meeting under the Auspices of the State Board of Health.  
 Feb. 9—Dr. Irvine McQuarrie, University Medical School—The Nature and Treatment of Various Convulsive Disorders of Infancy and Childhood.  
 Feb. 23—Dr. T. L. Birnberg, St. Paul—My Impressions of Russia, Particularly from the Medical Aspect.  
 Mar. 9—Dr. F. H. K. Schaaf, Minneapolis—Recent Advances in Therapeutics.  
 Mar. 23—Dr. Frank Whitmore, St. Paul—Injuries to the Skull, Vertebrae and Peripheral Nerves.  
 Cost—\$80.00.

REPORT OF THE CONSULTATION BUREAU

January 1, 1930, to January 1, 1931

NUMBER OF INQUIRIES RECEIVED ACCORDING TO MONTH

January .....	7
February .....	5
March .....	3
April .....	20
May .....	22
June .....	12
July .....	5
August .....	8
September .....	10
October .....	10
November .....	3
December .....	5
Total .....	110

TYPES OF INQUIRIES RECEIVED

*Case reports requesting:* General Information; Diagnosis; Prognosis; Treatment of Diseases; Reading of Dental Films, and Reading of X-ray Pictures.

*Other letters for general information requesting:* Information Regarding Schools; Books; Patent Medicine; Blood Test to Prove Paternity; Drugs; Analysis of Food Products; Teeth, and Immunization. Medico-legal Matters; Apparatus and Appliances; Locum Tenens and Locations and Placement in State Institutions.

Many of the case reports were followed by further inquiry.

GILBERT J. THOMAS, *Chairman.*

DR. MANLEY: This committee has submitted a very full report, and they particularly ask for suggestions from the delegates and members as to how they can improve their work. The Reference Committee commends this report and recommends its adoption.

Upon motion regularly made and seconded the report was accepted.

PRESIDENT SOGGE: The report of the Heart Committee.

REPORT OF HEART COMMITTEE

In answer to your note of February 17 requesting a report of the Heart Committee of which I happen to be acting chairman, I regret to say that after conferring with Dr. Hirschboeck, we have no report of any definite progress having been made. The plans outlined to you in the report by Dr. Hirschboeck last year are still in the immature stage and have as yet not been crystallized. We still have the idea of having, at some time, a series of articles on cardiac subjects appear regularly in the MINNESOTA MEDICINE. A number of local societies are devoting a little time at each meeting for a discussion of cardiac problems and a few speakers on cardiac subjects have been requested to appear before local or groups of local societies.

There has been no recent meeting of the Heart Committee to my knowledge but the ideas that were discussed and accepted at the last meeting still retain their value and when put into execution, will undoubtedly be of definite benefit.

Respectfully yours,

H. E. RICHARDSON,

*Acting Chairman.*

DR. MANLEY: The Heart Committee has no definite report. They are working slowly. We recommend the adoption of this report.

DR. H. E. RICHARDSON (St. Paul): The only point I would like to emphasize is that the Heart Committee would welcome any cooperation from the secretaries of the various component societies so that we could work out a series of short talks—in other words the development of a speakers bureau.

Upon motion regularly made and seconded the report was adopted.

PRESIDENT SOGGE: Next is the report of the Committee on Medico-Legal Affairs.

## REPORT OF COMMITTEE ON MEDICO-LEGAL AFFAIRS

The following is a report of the Committee on Medico-Legal affairs, for the current year:

1. An investigation of the conduct of certain attorneys in handling a malpractice suit, was requested by a member of this Association, with a view to possible disbarment proceedings as a result of unprofessional and unethical conduct. A quiet investigation of this has been carried on, and at this time is not fully complete, but it is the belief of this committee, at this time, that while the ethics of the legal profession were definitely violated by these attorneys, there is not sufficient foundation for disbarment proceedings. Opinions have been sought and obtained from attorneys in the State Bar Association, and they concur in this belief. The matter has not yet been disposed of, but in all probability this investigation will not bring the results desired by the member of this Association.

2. This Committee has studied the file submitted by secretary's office, in December, 1930, concerning the decision of the Supreme Court in a malpractice suit against certain members of this Association, which apparently nullified the Statute of Limitations. The case has been very thoroughly studied by the Chairman of this Committee, but in view of the present legislative situation, it has been deemed unwise to take active steps at this time. The file is being held for such action in the future as it may seem best to take.

3. No further definite action has been possible concerning the enactment of legislation regulating expert testimony in criminal cases. This matter was referred to in our report of last year, and we feel, at this time, just as we did then—that it is a desirable objective. We realize, also, that it requires a constitutional amendment, and that the legal profession, properly should lead in this measure. We feel that this objective should be borne in mind and we shall endeavor to work toward it, to the best of our ability.

Other than the above, no matters have come to the attention of this Committee.

W. H. HENGSTLER, *Chairman*.

DR. MANLEY: We move that the report of this committee be accepted.

The motion was seconded and carried.

PRESIDENT SOGGE: Now the report of the Committee on Schools for Laboratory Technicians.

## REPORT OF THE COMMITTEE ON SCHOOLS FOR LABORATORY TECHNICIANS

In our last annual report made at the Duluth meeting, we suggested several things.

The first was that the Legislative Committee of the Minnesota State Medical Association take steps to enact laws controlling these Schools of Medical Technology. The time is not quite ripe when this should be done.

Another recommendation we made was that Dr. Kano Ikeda, a member of the American Society of Clinical Pathologists, be made a member of our Committee. This society has formulated a standard for laboratory technicians and is conducting a registry of

technicians. They are now at work on formulating a standard for Schools of Medical Technology, and that is why we deemed it advantageous to have Dr. Ikeda a member of our Committee.

Since making our last report, two members of the Minnesota State Medical Association, were asked to discontinue their association with a certain school of Medical Technology, by the Executive Committee of their County Society. They did so in a most courteous manner.

Beyond this your Committee on Schools for Laboratory Technicians has not done much work because we are waiting for the American Society of Clinical Pathologists to finish their standardization for Schools of Medical Technology and then we will have something definite to talk about, and a standard to be followed, and the Schools of Medical Technology will either qualify by coming up to this standard or fail to do so.

A. G. SCHULZE, *Chairman*.

DR. MANLEY: The Reference Committee commends the action of this committee in persuading two members of the State Association to discontinue their affiliation with a certain school of medical technology. We move the adoption of the report.

Upon motion regularly made and seconded the report was adopted.

PRESIDENT SOGGE: The report of the Committee on Public Health Nursing.

## REPORT OF THE COMMITTEE ON PUBLIC HEALTH NURSING

There has been only one meeting of this Committee since the last meeting of the House of Delegates and no business has been transacted. This meeting was at the St. Paul Hotel at the time of the Secretaries Conference. Dr. George Earl, Dr. T. E. Flinn and Dr. C. B. Wright were present.

The chairman has had numerous interviews with Miss Olivia Peterson in regard to an amendment to the Public Health Nursing Law providing that all nurses doing public health nursing work should be certified by a committee, the personnel of which was never quite settled upon. There were objections to this amendment on the part of sanatorium men and it was decided, therefore, on the part of Miss Peterson and her committee, not to present this amendment at this session of the Legislature.

There was no other business coming before the committee.

Respectfully submitted,

C. E. CAINE,

GEORGE EARL,

T. E. FLINN,

C. B. WRIGHT, *Chairman*.

DR. MANLEY: The Reference Committee moves the adoption of this report.

DR. WRIGHT: The only thing I have to say is that I have spent quite a bit of time working with the University public health nursing school and I think we have accomplished a good deal. In other words, I think it is a good thing to have this committee. They tried to introduce a bill which would require all nurses

doing public health work to take a course at the University before they could engage in such work. The idea, I think, is all right, but there was quite an objection from some of the sanatorium men, some of whom train their own nurses, and we were able to kill the bill. The committee is doing quite a good work and I think it should be continued.

Upon motion regularly made and seconded the report was adopted.

PRESIDENT SOGGE: The report of the Committee on Contract Practice.

# THE COMMITTEE ON CONTRACT PRACTICE

The Committee on Contract Practice, consisting of nine members appointed December 9, 1930, has not had any meeting during the year. The chairman requested the members, in a form letter, to suggest subjects which might be discussed or acted upon by this committee, and also requested an expression as to whether members wished to have a meeting. The general feeling was that a meeting was not necessary as there was nothing of importance to bring up for discussion.

The Committee's report of 1929 was to the effect that the situation as to contract practice was satisfactory to all concerned, and it was the sense of that committee that it should confine its activities to consideration of complaints on contract practice, as brought to its attention during the year. There have been no such complaints submitted for the attention of this committee.

Inasmuch as the tendency of the times seems toward group practice in its various modifications, this committee has not felt it wise to attempt any new line of investigation. Discussions of this subject in the literature is free and voluminous in publications dealing with the economic side of medical practice. The situation seems to be in a state of flux.

This committee, therefore, finds nothing definite upon which to make recommendations for action by the State Association.

Very truly yours,

ARTHUR N. COLLINS, *Chairman*.

DR. MANLEY: The Committee on Contract Practice has not had a meeting during the past year. The Reference Committee believes that there is a very large field and a lot to be done in this line. We recommend that the title of this Committee be changed to that of Industrial Practice and that the committee be appointed by the Council instead of the President, and that a resolution, by the Minneapolis Surgical Society which will be considered in a few minutes, be handled by this new committee.

Upon motion regularly made and seconded, the report was adopted.

PRESIDENT SOGGE: The Committee on Military Affairs.

DR. RALPH T. KNIGHT (Minneapolis): During the present spring the county medical societies have been asked to appoint Military Affairs Committees, and a number have already been appointed. This will give

the state committee an opportunity to assist the local committees in—First—Arousing among eligible physicians interest in obtaining commission in the Medical Reserve. Second—Spreading information and enthusiasm among commissioned physicians so that they will retain their commissions and will advance in grade. Third—Keeping the profession as a whole informed as to what medical men are doing in military preparedness.

This committee will have from time to time some short bits of information which we would like to have inserted in MINNESOTA MEDICINE. It has been suggested by one of the members of the committee that there be a monthly department of a part of a column for Medico-Military facts, history, news and policies.

DR. MANLEY: I move the adoption of the report of the Committee on Military Affairs.

The motion was regularly seconded and carried.

PRESIDENT SOGGE: The report of the Committee on State Health Relations.

## REPORT OF COMMITTEE ON STATE HEALTH RELATIONS

The Committee on State Health Relations has no definite recommendations to make to the House of Delegates at this time. Matters coming up through the year have been taken up with Council as they arose. We are studying the problem of local public health administration, with special reference to the "full time county health units" which have been advocated repeatedly. The medical profession has taken no stand, and no recommendation will be made by your committee until it has studied the matter further and obtained the views of the physicians in the various parts of the state.

THEODORE H. SWEETSER, *Chairman*.

DR. MANLEY: I move the adoption of the report of this committee.

DR. E. S. BOLEYN (Stillwater): This committee met only twice during the past year and considered several things, but there wasn't anything in particular done.

Upon motion regularly made and seconded, the report was adopted.

PRESIDENT SOGGE: We will now take up the resolution submitted by the Minneapolis Surgical Society.

## RESOLUTION

Whereas, in the recent controversy over the reappointment of a member of the Industrial Commission statements were made that some members of this association were unfair to the employee by attempting surgical procedures for which they were not competent and were unfair to the insurance companies in their fees; and,

Whereas, there should be no antagonism but a feeling of kindly coöperation between the various agencies responsible for the care of injured employees.

BE IT RESOLVED that the State Medical Association appoint a committee whose purpose it will be to co-

operate with the Industrial Commission in ascertaining the facts in cases where unfairness or incompetence is charged to members of this association, and to act as a group for the arbitration of all controversies.

JAMES M. HAYES, *Chairman.*

DR. MANLEY: The Reference Committee approves of this resolution and moves its adoption, and recommends that the committee suggested be given charge of these controversies relative to insurance companies. We thought that instead of the name Committee on Contract Practice, it should be changed to the Committee on Industrial Practice. A lot of men objected to the old name, and it really is a narrow definition, and the whole thing comes under industrial work, and if that committee is appointed, if our recommendation is accepted, we thought that things of this sort coming up would be handled by that committee.

DR. J. M. HAYES (Minneapolis): The only object of this was to do away with some of the enmity of the insurance companies. Some of the things brought out in the Duxbury case were where doctors had rendered unfair fees and such things as that. We thought this might at least give the insurance companies the idea that the State Medical Association did not approve of that but rather wished to cooperate with the insurance companies in the matter of caring for the employees rather than being antagonistic to them. We thought especially that this committee already was composed entirely of so-called industrial surgeons, and we believed that if the committee could be composed of mixed surgeons rather than entirely industrial surgeons, better results might be accomplished.

DR. ADAMS: In what manner does the committee act as an arbitration board?

DR. MANLEY: The insurance company claims you are charging too much for your work. The committee takes it up and adjusts it.

DR. BOYER: The purpose of that committee is to iron out certain difficulties; in other words, this committee gives us a chance to secure fair fees for the man who does work for the Industrial Commission, and gives us a chance to clean house ourselves instead of having the Industrial Commission do it. To present a glaring situation: Some man got a piece of iron in his side. The doctor was unable to extract it, but continued seeing the man every day or so until he had run up a bill of some \$500.00, which the insurance company was obliged to pay. When his services were terminated the man was taken to a competent physician who extracted the piece of iron and in a few days the man was well. Such a matter as that would come under the cognizance of this committee.

PRESIDENT SOGGE: You understand the Committee on Contract Practice is abolished by this motion and a new committee on Industrial Practice is to be appointed by the Council.

Upon motion regularly made, seconded and carried the resolution was adopted.

PRESIDENT SOGGE: Now we have the report of the Special Committee to Study the Policies of the State Association.

DR. O. E. LOCKEN (Crookston): It was impossible

to have this report written so you men could have it beforehand. We just presented it to the Council today. I might say this report has been discussed by the officers for three hours this morning and for three and a half hours this afternoon by the Council. I wish to ask for the privilege of reading the entire report first and then re-reading the summary and having the House of Delegates act upon the parts of the report.

#### REPORT OF SPECIAL COMMITTEE ON POLICIES

At the 1930 meeting of the House of Delegates of the State Medical Association in Duluth, the following resolution was passed:

"That a committee of five be appointed by the President to make a careful study of the policies of the State Medical Association, particularly along the lines of the consideration of the problems and development of the County Societies, of re-districting of the Association, accumulation of Reserve Fund, the organization of permanent committees, and changes in the personnel, on the duties of the executive officers, and to make such recommendations as they deem advisable for the best interests of the association and the component societies."

An amendment requested that this report be submitted to the Council for their opinion.

Dr. S. H. Boyer, President, appointed the following committee: O. E. Locken, Chairman, Frank Burch, W. A. Fansler, J. R. Manley, Waltman Walters.

This committee has made a study of the policies of the State Medical Association during the period of expansion since 1925. The committee has attempted to evaluate the activities of the society and to make certain recommendations which, it believes, will promote further service to the Association, the Profession, and the Public.

#### QUESTIONNAIRE

To assist the committee in determining the sentiment of the component societies on certain questions of policy, a Questionnaire was sent to the Secretaries of all of the County societies. Replies were received from 25 of the 36 societies. The 11 societies not returning answers have a total membership of 223 members or approximately only 10 per cent of the membership of the State Association.

Having the majority opinion of the majority of the societies with 90 per cent of the total membership, we felt that we had at least a general basis to judge the sentiments of the members of the Medical profession of Minnesota. We find that in general there is a definite satisfaction with the present system of organization, its policies and its accomplishments. There are some criticisms and some suggestions for improvement. These will be considered in the report which we, as a committee, have been asked to present.

#### REPORT

##### I. County Societies

The State Medical Association is made up of thirty-six component societies and has a total membership of



2,100 in 1930. Eliminating the four large societies of Hennepin, Ramsey, St. Louis and Olmsted, there are fifteen societies consisting of only one County. These have an average membership of 15. They are listed as follows: Blue Earth, 31; Dodge, 6; Freeborn, 17; Goodhue, 13; McLeod, 12; Meeker, 8; Mower, 22; Rice, 32; Steele, 9; Wabasha, 12; Waseca, 9; Washington, 13; Watonwan, 7; Winona, 24; Wright 14. The remaining societies consisting of more than one county are seventeen in number and have an average membership of 30.

It is the opinion of this committee that a Medical Society consisting of six or eight members must find it very difficult to maintain a constant high standard of scientific programs. We believe that it is a good policy for the average society to invite one or more guest speakers for some of its programs, but we candidly question if it is not an imposition to invite a guest speaker to travel a long distance to address a dozen men. We strongly recommend that an attempt be made by the smaller individual county societies to combine with one or more adjoining societies with the view of bringing their membership up to the average of 30 which the combined county societies have.

The individual county societies are in the Southern part of the State where the counties are small. With the automobile and the excellent highways there is no hardship to travel 25 to 50 miles to a meeting in the afternoon or evening. This step of combining societies along the lines suggested should be worked out by the societies themselves. We urge that the councilors in the districts affected should take the leadership in this redistricting of their societies.

## *II. Southern and Northern Minnesota Medical Societies*

With greater emphasis placed on the local society, with the widening activities of the State Association, with the development of local hospital staff meetings, the average physician is beginning to feel that the demand on him to attend medical meetings is becoming too heavy. As a result there has come from different sources the suggestion that both the Southern and Northern Medical Societies be eliminated. Seven of the 25 societies who replied to the questionnaire expressed the desire that these two societies be eliminated. It is apparent that the majority feel that they be continued. It is our opinion and we so advise that the Northern Medical Association modify its plan to a one day session similar to that of the Southern Association. County Medical Societies could reduce the number of their meetings by one. The Southern or Northern Minnesota Society meetings could then be considered as one of the meetings in the series of each county society. This will overcome the objection of an additional meeting and will not detract from the State Association.

## *III. Administrative Organization of the State Association*

The present plan of administration of the State Association is patterned after the earlier forms of representative democratic government. There seems

to be no disposition to change to a direct election of officers such as we have now in civil life. The delegates selected by the component societies choose the council and the executive officers. Men are elected to office largely on their record of service to the Association. They have served an apprenticeship in committee work, in the House of Delegates, or in the Council until they are thoroughly familiar with the Society's problems.

The average doctor living an individualistic life has little opportunity to develop administrative ability. The increasing complexity of demands on the medical organization requires that it select its officers not only from men with scientific attainments, but from men who have served along the line of society activities until they are prepared for the higher positions. This idea is presented because from time to time criticism is heard presenting the feeling of dissatisfaction that the same old group is running the affairs of the organization year after year to the exclusion of other equally able men.

As rapidly as men show an interest in society problems and a willingness to give of their time, energy and money to serve the medical association, the State Association, in our belief, has always been and is ready to invite them to make those sacrifices. For these reasons the committee believes that the present policies are effective, satisfactory and essential.

## *IV. The Enlarged Program of Activities, Scientific, Educational and Legislative*

1. Everyone seems to be satisfied with the constant improvement in the standard of scientific programs given at the Annual Meeting of the Association. This committee has no suggestions to make in reference to the scientific features of our State programs. However, the policy of permitting local committees of the host city to control arrangements other than the housing and entertainment is fundamentally wrong and is the cause of irritation and confusion. Space and arrangements for commercial and scientific exhibits should all be handled through the State central office. The income from exhibit space should go to the State Association. Expenses by the host city should correspondingly be assumed by the State Association from the revenues obtained. All details of program, selection of presiding officers at sectional meetings, speakers at banquets and every other detail of the arrangements for the meeting should be in the hands of the state rather than a local committee. We suggest that action be taken to establish this as a policy for the future.

2. The Public Health, State Medicine Relations and Economic Educational programs have been developed primarily for the purpose of creating public opinion favorable to scientific medicine as well as educating the public to the needs and benefits of higher standards of individual and community health. The results of such a program are of necessity intangible for it will always be impossible to strike a balance sheet on the benefits of a particular educational policy.

A variety of activities has been fostered to create

a greater interest in Public Health education by the active committees in charge. Next to the Legislative Committee these various committees together have spent the largest sum of money in the budget of the Association. The use of Public Health Journals, Hygeia, Everybody's Health, Radio Talks, medical speakers for various groups such as Parent-Teachers and Educational Associations, weekly newspaper health stories mailed to rural newspapers and group meetings with the physicians themselves to encourage local medical leadership, have occupied most of the energies of these Committees.

These general efforts are of great indirect value. They represent a pioneer work of focusing the attention of the profession and the public on the importance of a properly conducted public health program. In addition to these activities it is our opinion that the State Association should particularly emphasize and center its efforts of public health education in the future on the following objectives:

a. Medical leadership should be encouraged in the County Public Health Associations which are the units of the Minnesota Public Health Association. To insure that medical leadership in County Health Associations will be provided for, we recommend that each component County Society appoint annually a special committee of its members whose responsibility it shall be to join and participate in the activities of each county Public Health Association and to keep the County Society informed of their Public Health Activities. A similar committee should be appointed for each county to make contact with the Red Cross organization. The importance of this is self evident unless we are willing to submit to the errors consequent to the inevitable lay leadership of local public health activities, free clinics and cultist influence.

b. Constant contact with the Public Health Nurses organization should be continued to avoid the difficulties of a few years ago when Public Health nurses had less of an understanding of the viewpoints of the Medical Profession in regard to Public Health.

c. Coöperation should be developed with the special committee which was appointed by the Minnesota Editorial Association for the purpose of creating a better understanding of the viewpoints of the Medical profession in regard to the subject of advertising. There is no disposition on the part of physicians to change their long standing ethics on this subject. There should, however, be a disposition to foster a friendly feeling with the newspaper profession for the mutual benefit of the public, the publishers and the doctors. Control of quack advertising, the presentation of scientific facts to the public in place of the customary news stories of unsupported, unestablished scientific discoveries can only come when the doctor and the publisher have established a different relationship than exists today. Conferences for the purpose of creating a better understanding of this problem can do no harm and may bring new viewpoints of value. It is recommended that county societies be required to appoint a special committee to serve in each county for the purpose of making contact with the newspapers. Such a

committee could also add to its field the troublesome problem of regulating medical speakers before lay audiences. Such regulation is for the purpose of avoiding irritation in the profession itself, reducing to a minimum undesirable professional publicity and to safeguard the public in the type of information given them.

d. University Relations. Most of the physicians practicing in Minnesota are graduates of our own University. Most of the future practitioners will be graduates of that institution. It is natural, therefore, that the State Medical Association has a hearty interest in the education and training of Medical students. There is definite evidence that whenever and wherever medical men convene and discuss the subject, that the University Medical School and Hospital have not even half-hearted support of the profession. Underlying this is the considerable difference of opinion on such questions as pay patients or free patients in dispensary and the University Hospital; a teaching staff comprised of scientists who have never engaged in the private practice of medicine; a students health service providing complete medical and surgical facilities to rich and poor alike, with an increasing emphasis on the treatment of disease rather than only its prevention, and increasing tendency to produce laboratory trained physicians at the expense of such additional factors in the practice of medicine that lead to the field of ethics, philosophy, psychology, economics, community contacts, and medical association problems, all of which occupy so much of the average physicians life and success.

We strongly recommend the continuation of a Public Policy Committee known as the University Relations Committee, to work regularly with a similar Committee from the Medical School and a Committee from the Medical Alumni Association. Such a committee might well aid or advise in formulating policies, regarding the recommendation and admission of patients to the University Hospital, discuss and formulate plans for extra-mural teaching, University Extension courses, and Public Health Clinics, in which the University teachers take part or coöperate with the local medical bodies, aid in securing University appropriations and funds for University research, for hospital development and for endowments. Such a committee should serve as a clearing house of sentiment and an aid to the President of the University and the Dean of the Medical School regarding problems of medical education, clinical teaching, and qualification standards.

It is our opinion that successful contact with these four groups: The Minnesota Public Health Association, The Public Health Nurses Association, the Minnesota Editorial Association and the University, will increase the value of the general medical educational program for the public through such agencies as lectures, radio talks, clinics, and news service. In making this suggestion we fully recognize the successful methods in which these general agencies have been carried out. To attack the problem of public health education from the basis now recommended we believe is fundamental and more productive of lasting results.

3. The activity of the State Association in medical legislation in the past six years has received greater emphasis than any other effort of the Society. The achievements have been so striking as to represent an entirely new era in the history of our Association. The most important acts were the passage of the Basic Science Law which prevents untrained cultists to practice the healing art in Minnesota; the revision of the Medical Practice Act requiring higher standards of training and practice; the reduction of the period in which malpractice suits could be started from six to two years; the Massage Bill placing the licensure in the hands of the State Board of Medical Examiners, thereby restricting the unlimited use of the title of Doctor by the masseurs; the securing of \$25,000 appropriation for research work at the University; the continuation of the Venereal Disease laboratory of the State Board of Health; the prevention of fees for medical service being dictated by the Workmen's Compensation law. Other more indirect results of value were accomplished by the prevention of the passage of such bills as anti-vaccination, anti-vivisection, cultists practicing in tax supported hospitals, the licensing of naturopaths to treat the sick, and the permission of osteopaths to increase their rights to practice allopathic medicine.

A summary of such a varied program of medical legislation gives an understanding of the aggressive front which the medical profession has taken both in its own behalf and in the protection of the public.

Because this program has cost considerable money there has been a reaction on the part of some members of the Association against it. Others have objected

This group comprised 6 per cent of the total membership of the society.

In view of this nearly unanimous expression of satisfaction with the work of the legislative program of the State Association, this committee, in analyzing its results, merely wishes to confirm the general opinion that the legislative committee has accomplished a heroic work, that its members have sacrificed much of their time and energy, that we have the fullest confidence in the judgment of the men who have continued the six year fight for medical legislation. We find that the State Association has rewarded these men in the only manner at its command, by electing them to the honor of the highest positions in the state organization.

The following principles can be accepted as the policy of this Association: (1) That Association expenditures for legislative purposes be predetermined by special budget of the council and such a special fund be audited as in the past by the council. That such expenditures be kept within this budget. (2) That lobbying in the interest of legislation affecting medical practice and Public Health be maintained as far as possible on a basis of advancing information as to the views of the profession and the needs of the public.

We believe that the policy of not asking for any further legislation from the 1931 legislature should, as far as possible, be continued through another session.

The excellent relationship which now exists between the legislature and the medical profession could best be maintained by asking for no further favors other than the maintenance of the high standard of medical legislation now on the statutes of Minnesota.

Year	1930	1929	1928	1927	1926
Investment Fund .....	\$23,737.37	\$22,735.76	\$21,000.00	\$11,700.00	\$ 9,000.00
Income .....	31,140.00	30,924.75	31,200.00	30,419.00	10,185.00
1. Dues .....	27,014.00	26,818.75	27,084.00	26,391.00	6,157.00
2. Subscriptions .....	4,126.00	4,106.00	4,116.00	4,028.00	4,028.00
Magazine .....	12,408.91	12,562.63	12,619.18	12,755.00	13,982.95
Miscellaneous and interest.....	537.57*	1,296.58	1,340.74	687.11	817.36
Total income .....	\$39,960.48	\$40,677.96	\$41,043.92	\$39,834.03	\$20,957.31
*Less \$1,001.61 interest on and added to Investment Fund.					
	1930	1929	1928	1927	1926
EXPENDITURES					
Administrative .....	\$10,670.48	\$10,674.67	\$ 8,967.62	\$ 9,086.73	\$ 6,238.72
Committees:					
Education and Legislation .....	5,117.03	18,361.52	2,296.39	14,254.59	143.85
Public Health .....	5,899.06	4,274.90	3,737.71	2,033.77	3.00
Minnesota Medicine .....	14,023.37	12,090.12	11,833.07	12,679.94	13,057.86
Miscellaneous .....	262.37				
Total .....	35,972.31	46,026.71	27,155.32	38,070.28	19,443.43
Deficit or Surplus.....	+3,988.17	-5,348.75	+13,888.70	+1,763.75	+1,513.88
1925					
Special assessment for legislation			\$5,145.12	spent in 1925	
	\$6,971.09—1925		4,160.97	spent in 1926	
	2,335.00—1926				
	\$9,306.09				

to the work on the principle that the methods used to accomplish the results are objectionable.

From answers to the Questionnaire, twenty-three of the twenty-five societies replying were satisfied. One was tolerant and in one society from which individual reports were received from 26 per cent of the membership, 25 per cent of those answering were not satisfied.

#### V. Financial Reports and Dues

The committee has reviewed the audits of the State Association since 1925 and presents a comparative outline of the main divisions of income and expenditures covering each of the years from 1925 to 1930, a chart of which is hereby submitted.



The following facts are observed:

Since the dues were raised in 1927, the annual income has doubled and has so remained approximately \$40,000.00 from dues, magazine, and interest. The membership of the State Association remains the same, approximately 2,000 members.

The income of the magazine remains the same, approximately \$12,000.00.

A review of expenditures shows that expenses for administration have advanced from approximately \$6,000.00 in 1926 to \$10,000.00 in 1930 but that there has been no increase in the past two years, indicating the arrival now of a fixed policy.

The expense of the legislative program has been variable in relation to the legislative years. The expenditures of approximately \$14,000.00 and \$18,000.00 respectively in 1927 and 1929 undoubtedly represent the peak of funds that will have to be expended for such purposes. With the fundamental laws on medical legislation now on the statutes, the State Association must concern itself chiefly with holding the ground that it has gained. A policy of defense can not require as great a cost as the heavy work of offense in the past few years.

The expenditure of funds for Public Health education, State Medicine and economic study and contacts from \$3.00 in the year 1926 has been increasing at the rate of about \$1,000.00 a year until it became approximately \$6,000.00 in 1930. We have already in previous sections of this report presented recommendations for the immediate future policy of this activity. Following these suggestions further increases will probably not be necessary.

The expenditure for our magazine, MINNESOTA MEDICINE, has remained essentially the same until 1930 when it increased \$2,000.00, to a total of approximately \$14,000.00. We feel that our medical journal has been constantly improving and that these expenditures are acceptable to everyone.

The question of the present dues is entirely a matter of the general policy of the State Association directed towards the two flexible divisions of our activities, legislation and Public Health education. In replies to the Questionnaire on this subject only three of the 25 societies expressed the desire that the dues be reduced, most of them felt that they should be maintained but should not be increased. This committee feels that annual dues of \$15.00 since 1927 have been essential and that the income derived has been properly spent to carry out the wishes of the majority of the State Association.

The future level at which dues shall be placed must depend wholly upon the activities which the society fosters. This can only be determined from year to year. It would be unwise to make any change until the results of the present policies can be further evaluated. Two years from now we will be in a better position to determine that question. Until then no further action should be taken.

The Investment Reserve fund now totaling \$23,737.37 is the result of a gradual accumulation of savings over

a great many years. The money is invested in high class bonds. Additions to this fund in the past years have come only from the earnings of interest from the fund itself. The advisability of continuing this policy has been questioned by some members. It has been created primarily because of a general policy of all business and fraternal organizations to protect themselves with some form of reserve fund. There has been no disposition on the part of the officers of the association to use any part of this accumulated fund for expenses of running the association. It has been suggested that it might be used for needy physicians, for scientific research, for the promotion of scholarship at the medical school or be kept only as an emergency fund for any unusual demand on the association which might arise.

It is our opinion that this fund should be allowed to increase and that additions to this fund should come as in the past from savings in the management of the State Association. We recommend that prizes be given for scholarship to medical students. Such an act would at once foster a contact between the undergraduates and the State Association, a relationship which is obviously advisable and of value to both. An annual stipend for a graduate fellowship in special investigative work would also indicate our interest as a profession in medical education. The interest earned on our reserve fund should carry such a policy.

#### VI. Minor Questions

Various other questions have been brought to the attention of the committee for consideration.

1. Shall the Medical Journal stress other subjects than scientific and Association reports? So much is being written on the economic side of medical practice in lay magazines that there is some demand that these subjects be discussed in our Journal. It is our opinion that any steps taken in that direction should be taken very slowly. Special articles and editorials on this subject from time to time should be welcome but it is not advisable at this time to create any special department in the magazine on economic questions. The subject of economics should be left to the Editorial Committee.

2. The Reference Committee in one of its reports to the House of Delegates recommended that the office of Secretary and Treasurer be combined to expedite the routine business of the Association. In view of the policy of having all accounts audited by certified public accountants, a separate Treasurer's report has been considered less essential. The expenditures of funds is now wholly at the discretion of the Council. If in the opinion of the Councilors the combining of the offices of Secretary and Treasurer will increase the efficiency of their routine business such a change should be made. Our committee feels that the House of Delegates should take no action except on the recommendation of the Council.

3. The Association has employed a group of attorneys, Oppenheimer, Dickson, Hodgson, Brown and Donnelly, for many years. In recent years Mr. Brist has done



much work for our Legislative Committee. He is also the Attorney of the Board of Medical Examiners and as such has carried on the successful prosecution of illegal practitioners of medicine. We believe his work will be more effective if he is not in the direct employ of the Medical Association as its regular attorney. Representing the State Board of Medical Examiners rather than the medical profession, places him in a stronger position before the Courts. We, therefore, recommend that the present relationship be continued and the present group of Attorneys be retained as in the past. Mr. Brist, however, could be employed as a special attorney by any committee authorized by the Council for any special purpose and for which a suitable retainer's fee should be paid.

#### SUMMARY OF RECOMMENDATIONS

1. That the small individual county societies should combine when feasible, with adjoining societies to bring their membership up to approximately the average of 30 now existent in the other combined county societies.
2. That the Northern Minnesota Medical Association limit its annual meeting to a one day program. That both Northern and Southern Societies meetings should be considered as one of the annual series of the County societies in their respective district.
3. That the present plan of administration of the State Association be continued.
4. That all arrangements for the Annual Meeting be handled by the State central office and by State committees with the exception of such matters of entertainment that the local host city is prepared to give. That income from commercial exhibits should go to the State Association and that it in turn should correspondingly assume expenses for the meeting.
5. That the Public Contact Program be continued as in the past and special emphasis directed toward: (1) Medical Leadership in County Public Health Associations. (2) Constant contact with the Public Health Nurses Association. (3) Coöperation with the Minnesota Editorial Association. (4) Coöperation with the University Medical School.
6. That in the policy toward medical legislation the Association appreciative of the present high standard of medical statutes as far as possible ask no further immediate favors from the legislature except to continue the principles now established; that expenditures for legislative activities be budgeted and audited by the Council.
7. That toward the problem of finance the Association restrict its expenditures in both legislative and educational activities to a level that can be met with its income.
8. That the policy of developing a reserve fund from savings in the management of the Association be continued. That when deemed feasible steps be taken to give prizes and scholarships, both undergraduate and graduate, to the students of the medical School to indicate the interest of the Association in medical education.
9. That the Medical Journal MINNESOTA MEDICINE

continue its present policy of serving as an organ for scientific articles and association activities. The subject of Economics should be left to the Editorial Committee.

10. That the question of combining the offices of Secretary and Treasurer be decided on the recommendation of the Council.

11. That the present group of Attorneys of the Association be retained.

#### CONCLUSION

The committee which was appointed by Dr. Boyer to prepare this report consists of men who have had no direct relation with the organization of the activities of the State Association in the years of its expansion. We have approached each question of policy from as unbiased a viewpoint as possible, attempting to base our recommendations both by ascertaining the sentiment of the entire membership of the association, and by exercising freely our own judgment. We trust this report will serve as a basis of information of the essential policies and activities of the Minnesota Medical Association. In analyzing the work of the Association the committee has itself obtained an appreciation of the achievements of the Society. We hope the general membership will be equally stimulated by reading this summary of the efforts of the Association. The Minnesota Medical Association has been in the hands of high minded, capable men. We anticipate that it will continue to be so in the future.

As a special committee we wish to express our appreciation for the courtesies that have been extended us from the officers, the component societies and the entire membership in assisting us to obtain the information on which the report is based.

O. E. LOCKEN,  
FRANK BURCH,  
W. A. FANSLER,  
J. R. MANLEY,

PRESIDENT SOGGE: I think the only way we can get at this is to have Dr. Locken read the summary, paragraph by paragraph, and take action on each paragraph.

DR. WRIGHT: I wonder if it would be possible for the members to talk this thing over and discuss this report at the meeting tomorrow.

SECRETARY MEYERDING: We hope the House of Delegates will convene tomorrow at 11:30 A. M. in Parlors O. P. and Q, where luncheon will be served. I don't know how much business will come up tomorrow; we have election of officers, but perhaps this could be taken on.

DR. ROBBINS: I move that we lay the report over until tomorrow.

DR. KLAIVENESS: In order that you may know my opinion about the whole report, I would say it is the most interesting analysis of the functions of our State Association that I have ever listened to, and the Committee has certainly done itself proud by covering the field so completely. However, while I concur with the recommendation that the smaller counties should join

and make up into larger societies, they have apparently forgotten the policy of the State Association to recommend a redistricting of its Association with reference to the Councilor districts. I speak particularly for Wright County, which is adjacent to Stearns and Benton Counties. It is manifestly out of the question to expect that Wright, Stearns and Benton counties will ever have a councilor given to them when they are in with Hennepin County which has 524 members. We would be glad to join with Stearns and Benton counties and leave Hennepin County by itself.

PRESIDENT SOGGE: You have heard the motion that we take up this report tomorrow. All in favor signify by saying "Aye." I think we had better have a division on that.

The vote was 26 to 24 so the motion is carried.

The Council recommends that Dr. T. R. Moran, St. Luke's Hospital, St. Paul, Dr. F. C. Mann, Mayo Clinic, Rochester and Dr. W. C. McCarty, Mayo Clinic, Rochester, be elected to associate membership. What is your wish?

Upon motion regularly made and seconded the recommendation of the Council was accepted and Drs. Moran, Mann, and McCarty declared associate members of the Minnesota State Medical Association.

PRESIDENT SOGGE: There has been suggested a new plan for membership certificates, with the name of the local society and the local secretary. Dr. Meyerding will explain it.

SECRETARY MEYERDING: At the Secretaries' Conference the question of adding to your membership certificate the name of the local society and the local secretary was discussed. I have a few proofs here of a suggested certificate. It means that in your office when you put up your certificate the name of your local medical society and your secretary would appear on it. We sent out a questionnaire to the various societies in the state and 26 reported favorably. The Council discussed this this afternoon and it thought the best plan would be to have the name of the local Society and the secretary's signature stamped in our office so every member would receive his certificate promptly. The size of the certificate will be the same as it has been in the past. The Council recommends that the new plan be tried for a year and that the certificates be mailed directly from the state office.

DR. ROBBINS: I move that the plan be adopted.

The motion was regularly seconded, put to a vote and carried.

DR. C. L. SCOFIELD (Benson): It seems our By-Laws provide that the House of Delegates shall meet at 2:00 P. M. on the first day of the meeting. That is not necessary, and I offer this amendment to Chapter 5, Section 1; that the words "At 2:00 P. M." be stricken out, and that this be considered at the meeting tomorrow.

DR. ROBBINS: I have this resolution to offer: "Resolved that the House of Delegates of the Minnesota State Medical Association go on record urging the component societies to incorporate in their public health educational programs a study of the health conditions of the Indian population, and its relations to

the general public." I move that the resolution be referred to the Reference Committee for a report tomorrow at the meeting of the House of Delegates.

Upon motion regularly made and seconded the report was adopted.

DR. N. O. PEARCE gave a talk on Medical Economics, illustrated by slides.

## SECOND MEETING OF THE HOUSE OF DELEGATES

The second meeting of the House of Delegates of the Minnesota State Medical Association at the Nicollet Hotel, Minneapolis, was called to order at twelve, noon, May 5, 1931, by President Sogge.

PRESIDENT SOGGE: Gentlemen, come to order please. We will have the roll call.

Secretary Meyerding called the roll.

PRESIDENT SOGGE: All those who have not turned in their credentials, please do so.

A summary of the minutes of the previous meeting was read by Secretary Meyerding.

PRESIDENT SOGGE: Next is the report from the Council.

Dr. Workman, Tracy, read the report of the Council.

## SECOND MEETING OF THE COUNCIL

The second meeting of the Council was held Monday night after the meeting of the House of Delegates adjourned.

The following were present: H. M. Workman, W. W. Will, M. S. Henderson, W. A. Coventry, F. J. Savage, A. G. Schulze, O. J. Hagen, Wm. A. Piper, and E. A. Meyerding.

The question of redistricting the Councilor districts was discussed. Motion made by Dr. Coventry, seconded and carried that a Committee of two Councilors be appointed to look into this matter of redistricting the Councilor districts and the amalgamation of some of the component societies. Drs. Coventry and Henderson were appointed.

The meeting adjourned.

PRESIDENT SOGGE: We will have the report from Dr. Watson, Chairman of the Committee to Coöperate with the Editorial Association.

DR. J. A. WATSON (Minneapolis): Most of you know something about this Committee, about its conception and so on. The Editors started to interest themselves in the question of whether or not there should be a broader attitude on the part of the medical profession toward advertising. They soon saw that it was a matter of evolution that it would have to be left to the medical profession. One thing led to another until they requested that a committee from the Minnesota State Medical Association be appointed to confer with a committee of their own association, the Minnesota Editorial Association, with a view of establishing closer relations between the two professions, so that something would grow out of it in the future.

While we were very skeptical in the first place as to

whether it would ever amount to anything, it has come to the point where those of us who were appointed members of the committee think that good might grow out of it and may result in something valuable to the medical and editorial professions. These committees had a breakfast meeting this morning at which the following men were present:

Dr. J. A. Watson, Minneapolis  
Dr. S. H. Boyer, Duluth  
Dr. H. M. Workman, Tracy  
Dr. O. O. Larsen, Detroit Lakes  
Dr. E. A. Meyerding, St. Paul  
Mr. Roy Dunlap, St. Paul  
Mr. J. Jones, Minneapolis  
Mr. H. E. Soule, Minneapolis  
Mr. A. E. McGowan, Minneapolis  
Mr. L. Benshoof, Detroit Lakes

Mr. Benshoof was the originator of this whole question. It started rather acrimoniously and has settled down into something quite harmonious.

After a good deal of discussion the following resolution was adopted:

"Be it RESOLVED, That this conference favor the formation of an Advisory Board of Public Relations between the Minnesota State Medical Association and the Minnesota Editorial Association, consisting of five representatives of each organization. It is the sense of the conference that the representatives of the two associations be selected so as to have representation of the state at large."

PRESIDENT SOGGE: What do you want to do with this report?

DR. E. KLAVERNNESS (St. Paul): I move it be accepted.

DR. W. A. COVENTRY (Duluth): As a substitute motion I move the report be accepted and the recommendation of the report that a committee of five be appointed, be carried out by the Council.

The motion was regularly seconded, was put to a vote and carried.

PRESIDENT SOGGE: University Relations, Dr. Boyer.

DR. S. H. BOYER: The University Relations Committee, after several meetings, has arrived at this conclusion and submits this report:

#### REPORT OF UNIVERSITY RELATIONS COMMITTEE

Members of the Committee on University Relations have coöperated with the Medical Alumni Association during the past year in studying various problems confronting the medical school. It became apparent that many of the shortcomings of the medical school had their origin in a lack of executive ability and of practical leadership on the part of the Dean. There was also considerable criticism of the methods employed in teaching the practical side of medicine. The Medical Alumni Association had come to a similar conclusion, and your committee endorsed a resolution which they sent to the Chancellor of the University and the Board of Regents, in which a change in the deanship of the medical school was requested.

We regret that the Chancellor of the University has

not deemed it advisable to take any steps to remedy the conditions suggested by the resolution, and that the situation has been allowed to remain as it was before.

L. SOGGE  
S. H. BOYER  
W. F. BRAASCH  
J. T. CHRISTISON  
H. M. WORKMAN  
C. B. WRIGHT

PRESIDENT SOGGE: You have heard this resolution. What do you wish to do with it?

DR. COVENTRY: I move the report be accepted and placed on file.

The motion was regularly seconded, was put to a vote and carried.

PRESIDENT SOGGE: We have an unusual honor today in having the President of the American Medical Association with us. He is a man that we are proud of because of his ability, and we are proud of him because he is President of the greatest medical organization in the world. I would like to have him stand up and speak to us just a few minutes, Dr. E. Starr Judd.

The audience arose and applauded.

DR. E. STARR JUDD (Rochester): One of my principal jobs now seems to be to try to learn something about organized medicine. I knew nothing about it a year ago, but I know very much more about it now.

One thing I have found out is that the Minnesota profession is really organized, better than any other state. That is largely due to the efforts of Dr. Meyerding and the Councilors. As you know, the state society, public health activities and all medical activities are under the control of Dr. Meyerding and the Councilors. I think that this is being recognized throughout the country. Very many of the state organizations are following our example in that respect. (Applause).

PRESIDENT SOGGE: We will hear a resolution from the Secretary.

SECRETARY MEYERDING: Last night Dr. Robbins of Winona presented a resolution that was referred to the Reference Committee but the Chairman is not here. I think that if I read it again you can take action.

This resolution is simply in conformity with one of the trends of public opinion. As you know, there is a great deal of interest now taken in the Indian. This is just a suggestion on the part of the House of Delegates, as I understand it, for the local society to coöperate with the public in studying Indian health. It reads as follows:

"RESOLVED, That the House of Delegates of the Minnesota State Medical Association go on record urging the component societies to incorporate in their public health educational programs a study of the health conditions of the Indian population, and its relation to the general public."

PRESIDENT SOGGE: What do you want to do with this resolution?

DR. E. S. BOLEYN (Stillwater): I move that it be accepted and filed.

The motion was regularly seconded, was put to a vote and carried.

PRESIDENT SOGGE: Amendment to the By-laws read last night.

SECRETARY MEYERDING: Dr. Scofield introduced an amendment to Chapter V, Section I.

The By-laws say that we shall meet at two p. m. on the first day of the meeting. That caused a little trouble this year. We are simply striking out the words "two p. m." so we can set the hour.

DR. H. M. WORKMAN (Tracy): I move that it be adopted.

The motion was regularly seconded, was put to a vote and carried.

PRESIDENT SOGGE: We will now continue with the report of Dr. Locken.

DR. O. E. LOCKEN (Crookston): Mr. President, when this Committee was appointed, and as we have drawn up this report, it was our opinion that there was nothing mandatory about what we recommended as far as the future policy of the Council was concerned, in carrying out these recommendations. It was our understanding that we were merely asked to make a survey of the sentiment of the organization and report back to you these recommendations.

We discussed this report very carefully all afternoon yesterday, and there was a great deal of discussion, pro and con. It seemed to me the whole thing was taken on the wrong track, that if we adopted this report it was mandatory on the Council to carry out every one of these recommendations. It is our idea that it is simply a matter of aid to the Council as an indication of what a disinterested group of five men thought about the policies of the organization, from a survey they made in an attempt to get the opinion of the entire organization. We do not wish to be in the position that we want to argue or defend any of these recommendations but merely express them. If any members of the House of Delegates have opinions contrary, I think it is proper that they get up and discuss those questions, so their opinion may be of help to the Council. I think if we have that understanding we will probably avoid a great deal of argument over some of these things and save some time, and make it possible for us to get to the clinics this afternoon. If that idea is correct, we can approach this report from that standpoint. I will read the summary of recommendations again.

PRESIDENT SOGGE: Read them paragraph by paragraph.

DR. LOCKEN: If there is no dispute about them, it is not necessary to discuss each point.

"1. That the small individual county societies should combine, when feasible, with adjoining societies, to bring their membership up to approximately the average of 30 now existent in the other combined county societies."

PRESIDENT SOGGE: I understand the Council took this matter up last night, and I would like to hear from Dr. Coventry what the recommendation was.

DR. COVENTRY: We have discussed that in the Council off and on for the last year or so. There are two

problems: One, amalgamating some of the smaller societies, and the other, redistricting the state as far as the Councilors are concerned.

A motion was made last evening and carried that the Council appoint a committee to survey the question of drawing the weaker societies in with the stronger ones, and also surveying the state as to redistricting, rearrangement, so far as Councilors are concerned. As I say, that motion was carried and a committee has been appointed. It seems to me, Mr. President, that will take care of the matter to the satisfaction of everybody.

PRESIDENT SOGGE: Do you want to take action on the report from the Council, approve it, or anything to that effect?

DR. J. R. MANLEY (Duluth): I move it be approved.

The motion was regularly seconded, was put to a vote and carried.

DR. LOCKEN: "2. That the Northern Minnesota Medical Association limit its annual meeting to a one-day program. That both Northern and Southern Societies meetings should be considered as one of the annual series of the county societies in their respective districts."

DR. B. S. ADAMS (Hibbing): I think the Committee is absolutely right that one day is sufficient. I agree that there is a superfluity of medical meetings. However, the sentiment expressed to me is that the north would like to get together once in a while, and they want to continue the Northern Minnesota Medical Association and I presume in the southern part of the state they want to continue the Southern Minnesota Medical Association.

There is one thing that comes to my mind in connection with the meeting at Hibbing, and the same will apply more to meetings of the Northern Minnesota Association than to meetings of the Southern Minnesota Association, and that is the distances that we have to travel. We could have the meetings start early in the morning at Hibbing and finish up that night, but we have no sleeper trains coming into Hibbing. Anybody coming by way of Duluth will not get to Hibbing until ten forty-five. If they drive, they have to come up the day before, unless they want to do some night driving.

I am wondering if it wouldn't be better to have our meetings start, say, at one o'clock noon and on until eleven or twelve o'clock the next day. That will give those, that want to, a chance to drive. It will mean only one night away from home. Then on Saturday afternoon, after the meeting is over, we can give them a trip through the ore pits in an observation car, or they can go home. That is just a suggestion. We can work it out either way it seems advisable. We would like to get your advice.

PRESIDENT SOGGE: Is there any further suggestion or discussion? I suggest that the resolution be sent to officers of the Northern and Southern Minnesota Medical Associations, because we can't take action on it, as far as I can see.

DR. BOYER: Of course, this recommendation is not mandatory. It is simply given out to the Northern and



Southern Minnesota Medical Societies and, of necessity, to the component societies of the state organization, because, in the last analysis, it must be through the action of all of these bodies, as they see fit to consummate or follow out this recommendation. So it resolves itself, after all, into more or less of a local action. There is nothing that we can do.

PRESIDENT SOGGE: Would you recommend that this go to the officers of the associations?

DR. BOLEYN: I so move.

The motion was regularly seconded.

PRESIDENT SOGGE: It has been moved and seconded that this resolution be sent to the officers of the Northern Minnesota and Southern Minnesota Associations. All those in favor say "aye"; contrary "no." It is carried.

DR. LOCKEN: "3. That the present plan of administration of the State Association be continued."

PRESIDENT SOGGE: What do I hear on that?

DR. BOLEYN: I move that it be adopted.

The motion was regularly seconded, was put to a vote and carried.

DR. LOCKEN: "4. That all arrangements for the annual meeting be handled by the state central office and by state committees with the exception of such matters of entertainment that the local host city is prepared to give. That income from commercial exhibits should go to the State Association and that it in turn should correspondingly assume expenses for the meeting."

PRESIDENT SOGGE: What will you do with this recommendation?

DR. M. S. NELSON (Granite Falls): I move it be adopted.

The motion was regularly seconded.

DR. F. H. MAGNEY (Duluth): I think before this is settled you should know our attitude in Duluth. We have had two State Association meetings since the practice of selling space was adopted by the State Association. We spent the money collected, first of all, to put on a good meeting at Duluth. The net proceeds we put in the Library Fund, and not one cent has been used for any other purpose. We are trying, if possible, to build up a library in Duluth that will be available to those in the northern end of the state. We are rather distant from the medical center here and we need a library. That is the only purpose we will use the money for.

I think before this is definitely settled it should perhaps be given a little further consideration, perhaps by a committee.

DR. LOCKEN: I took the liberty last evening, after our meeting, to go around and talk to some of the exhibitors to get their frank viewpoints on this. This isn't any reflection on the people of Minneapolis who have been responsible for the program, but there was definite dissatisfaction on the part of the exhibitors in the way their space has been handled. They have gone so far as to appoint a special committee of three members to handle affairs for them in the future, in their own defense. It is an indication that the exhibitors themselves feel that under the present system they

are not being given an equal and fair handling in the space they require. We discussed the angle from the standpoint of the Association. I just wanted to offer that information.

DR. J. P. McDOWELL (St. Cloud): Dr. Magney of Duluth has a good idea, but I will warn you that if any of the smaller towns want to put on the meeting in their town, they had better figure differently. They aren't going to get any library, but they are going to go down into their pockets, because we put on the Association meeting at St. Cloud a few years ago and I have had definite orders not to let it come up again because it costs too much money. I don't think myself that it was an advantage to the Association to meet in a small town. Don't ask for it unless you know where you are going to get off at.

PRESIDENT SOGGE: Is there any further discussion.

SECRETARY MEYERDING: For three or four years the Secretary has brought up the question of the commercial exhibits being handled by the central office. An exhibit of that type is like any other. You have to build up a clientele and make the acquaintance with those people. As Dr. Locken brought out, there are certain things they don't want, and they are more or less dissatisfied.

In the past few years we have had fairly good success. This is an excellent exhibit. It has been well run, in spite of the criticism the men make. They are a little crowded but it is the best thing that could be done. Last year at Duluth there were empty booths. The same thing happened at St. Paul.

The expense of the meeting is gradually increasing. The State Association has assumed more and more obligations. The cost has run from \$1,200 a few years ago to \$1,800 in Duluth. This year I was told to cut down, and we are having a two-day meeting, practically, as you know. If we are to have meetings in other cities we have to put on a different type of meeting, because we have to bring in outsiders for attraction, and allow each one from \$200 to \$300 for traveling expenses and one thing or another. It soon counts up when you have two or three or four speakers.

We would like to see the commercial exhibits in the hands of the state office, so that we could apply that expense to the state meeting and make a better meeting. Dr. Loomis is here. If you want to know about how to organize a commercial exhibit, he can tell you. This, I believe, is his first experience. As I said, he did a fine job. He had more than he could take care of.

DR. E. A. LOOMIS (Minneapolis): Mr. President, the committee feels that this ought to be handled by the state. As you say, each year a new committee gets hold of it and you do not get organized. For instance, we took hold of this in February. I believe we could have had twice as many exhibits if we had taken hold of it before the first of the year because they all make up their budgets around the first of the year. When you send out the letters they write back and say, "We would have taken space if we had known about it the first of the year."

If you treat these fellows well and keep track of

them from year to year, it will work much better. This year there is going to be a surplus and it goes to the Hennepin County Society. It might just as well go to the State. The dentists had ninety exhibitors at their meeting, and we have about thirty. We could have had at least fifty or sixty, but we have to get more space, if this thing keeps on growing. But the committee is strongly in favor of having it handled by the state, and the local men can do whatever the state wants them to do and help out.

PRESIDENT SOGGE: There is one motion before the house that the report of the Committee be accepted. Is there any further discussion? All in favor of that motion say "aye"; contrary. The motion is carried.

DR. LOCKEN: "5. That the Public Contact Program be continued as in the past and special emphasis directed toward: (1) Medical leadership in County Public Health Associations. (2) Constant contact with the Public Health Nurses Association. (3) Coöperation with the Minnesota Editorial Association. (4) Coöperation with the University Medical School."

PRESIDENT SOGGE: What do you want to do with this recommendation?

Upon motion regularly made and seconded the recommendation was adopted.

DR. LOCKEN: "6. That in the policy toward medical legislation the Association, appreciative of the present high standard of medical statutes, ask no further immediate favors from the legislature except to continue the principles now established; that expenditures for legislative activities be budgeted and audited by the Council."

DR. M. S. NELSON (Granite Falls): Inasmuch as we don't know what is going to develop, it seems to me the Legislative Committee should not be handicapped as to expense or in any way more than they have been handicapped in the past. If this is going to be any handicap to the Legislative Committee, it seems to me it should either be referred to the Council or laid on the table.

DR. BOYER: The Association and the Legislative Committee have not contemplated any legislation since the Basic Science Bill was passed, though we can never tell when some new type of legislation may become necessary. Something may come up that will require active work on the part of the Legislative Committee two years hence. The chances are there won't be any need for legislation; we hope not. But owing to the fact that such a possibility exists, we ought to take that into consideration.

As to the matter of activity on the part of the Legislative Committee, that must exist. This recommendation in no way touches upon that. There is legislation that will need to be combated. So far as that is concerned, this resolution does not interfere. But there is the possibility that it would interfere with what might prove to be a need for active legislation. Therefore, it seems to me that we ought to insist upon that resolution or that recommendation being altered.

DR. WRIGHT: In your discussion, Dr. Locken, I think you put in the phrase "as far as possible." I think that is an excellent phrase to put in.

DR. LOCKEN: That is in the main discussion of the thing. It was left out of the summary.

DR. WRIGHT: That leaves it quite clear, I think.

SECRETARY MEYERDING: Do you want to add those words?

DR. LOCKEN: Yes, after "statutes."

PRESIDENT SOGGE: Read that sentence again.

DR. LOCKEN: "That in the policy toward medical legislation the Association, appreciative of the present high standard of medical statutes, as far as possible, asks no further immediate favors from the legislature except to continue the principles now established."

PRESIDENT SOGGE: With that correction, have you any objection?

DR. NELSON: With that change, I move its adoption. The motion was regularly seconded, was put to a vote and carried.

DR. LOCKEN: "7. That toward the problem of finance the Association restrict its expenditures in both legislative and educational activities to a level that can be met with the present income."

SECRETARY MEYERDING: Dr. Locken, I wonder if you could take out the word "present" and say "its income." Somebody might want to give us some money and we couldn't spend it. I have a scheme now whereby we may raise some money.

DR. LOCKEN: It was simply an expression that we maintain our organization on the present level of dues.

PRESIDENT SOGGE: Will you correct that?

DR. LOCKEN: "With its income."

PRESIDENT SOGGE: You have heard this report. What do you wish to do with it?

DR. COVENTRY: I move its adoption.

The motion was regularly seconded, was put to a vote and carried.

DR. LOCKEN: "8. That the policy of developing a reserve fund from savings in the management of the Association be continued. That steps be taken to give prizes and scholarships, both undergraduate and graduate, to the students of the medical school to indicate the interest of the Association in medical education."

DR. COVENTRY: I move its adoption.

The motion was regularly seconded.

DR. F. J. SAVAGE (St. Paul): This fund amounts to about \$24,000, and there isn't any definite unanimity of opinion among the members of the Council as to what sum this should reach before various expenditures might be made from it. In order to clarify this resolution I move the following amendment: After the word "that" in the second sentence insert the words "when deemed feasible," so it will read: "That, when deemed feasible, steps be taken to give prizes and scholarships," etc. That will make it less compulsory on the part of the Council, if they didn't want to put in this small amount at the present time, to defer the establishment of the precedent.

The amendment was regularly seconded.

DR. WRIGHT: I should like to say that this resolution came from Hennepin County, and it came because of the question of reserve, how large a reserve fund we should have. I don't want to urge the thing, but inasmuch as that is one of the things that was most

anxiously wished for in this resolution, I should like to have some expression of opinion as to what we should aim for in the accumulation of a reserve fund. It may not be definite, but I think we ought to crystallize our opinion, to some extent, on what we want. If the House of Delegates has any opinion about it, it would be interesting to know. I wouldn't want to urge it upon the House of Delegates, but my personal feeling is that we should set our reserve fund fairly high. I believe all organizations are recognized by their financial responsibility, and I believe a reserve fund put at \$50,000, \$100,000, or something of that kind, might be a good thing to shoot at.

DR. W. A. FANSLER (Minneapolis): I am a member of this Committee but the conclusions do not necessarily represent the feeling of each individual as an individual. One reason we did not set a definite amount on this thing was the fact that we couldn't agree upon it; also, there was a great deal of disagreement on the questionnaire we sent out. I think there was more difference of opinion on that than almost anything else. But speaking for myself as a Delegate, I feel we should have a definite reserve fund that we can rely upon. If we had a reserve fund, perhaps, at the start of \$50,000, it would mean a reserve of \$20 per member, and that isn't much for protection. We spend that much each year for insurance against malpractice. I quite agree that if there was a definite amount, it would have some influence with the legislative bodies and with other people too. I should like to make an amendment that we set \$50,000 as the goal for a reserve fund, for forwarding the interests of the State Medical Association. I merely mention that amount so we can get some discussion and see what the reaction is.

DR. COVENTRY: The gist of the argument is this: The second part of that paragraph is the most essential thing, whether you are going to use any of this money for scholarships and so forth, as the Committee has suggested. It is my notion, personally, that we should take steps to establish some relationship between the Society and the graduate body and university by offering prizes or something of that kind. That does not have to be \$1,000 or \$500 or anything of that kind. You can start to take steps even before you get the total amount of reserve brought up.

DR. McDOWELL: You and I have to go home and explain to a lot of fellows what we are going to do with \$50,000. They say, "We are paying too much dues." They are the kickers. You and I know that we ought to have some money in reserve in order to make a showing against our opponents in the legislature or against insurance companies or anybody else that want to buck us. But we have to take back to those fellows at home something definite as to what we have this reserve for.

Another thing is that you can use this money for scholarships and hope to get it back, which you probably will, but I just happened to talk with a man who runs a business college up at Fargo, whose son is studying medicine in Chicago. He was prouder than

a peacock because his son had a key which he earned doing some research work at the University of Chicago, and he seemed prouder than if it had been a scholarship. I don't think that cost them very much money. You could give prizes that way and it would not cost you much. When you talk to the fellows at home about giving out money to help somebody else through school they holler about "who helped me through school?" They say, "We have too many doctors."

DR. W. F. BRAASCH (Rochester): We might reassure the constituents that within the last few years very little has been added to the reserve fund. Almost every dollar of income has been necessary for expenditures. I do think that if we could have a reserve fund, without mentioning any exact figure, but a considerable amount, it would be an indication of power and we could use it for a whole lot of emergencies. I should like to see the day when we had an income from which our Secretary might be paid, or some special officer, or could take care of some special thing that would arise. In other words, it would certainly be for the best interests of the Association if we had a large fund back of us.

DR. WRIGHT: I wonder if that couldn't be amended by including the word "endowment" or "donation." Sometimes societies get money that way. I think it would be a good thing to make a statement about reserve even though they feel it should not be increased. I think it would be perfectly all right, if the Committee so feels, to say "we do not feel the reserve should be increased at the present time." What do you think of that?

DR. McDOWELL: As I said before, I think we ought to have this reserve. If we can make some definite use of it, for research work or paying our officers, or something of that kind, we will ultimately cut down the dues, but we should have some idea of what we are going to use it for, for the fellows at home.

DR. IVAR SIVERTSEN (Minneapolis): I might tell Dr. McDowell to bring home to his local society, and I think the balance of the members can bring it home to their societies, the fact that the chiropractors and osteopaths and other cults are paying from \$200 to \$300 a year during the legislative years for a fund to fight bills. If they can afford to pay that much money, it seems to me we can afford to pay \$15 a year to the State Society for the help they give us in bringing about the legislation we need.

DR. WORKMAN: This increase in our Reserve Fund is due to the interest on the money. It isn't taken from our dues. It is the interest that is increasing our fund now.

PRESIDENT SOGGE: We have an amendment to the original motion. That is the thing before the house.

DR. COVENTRY: May I ask for a reading of the original resolution?

DR. LOCKEN: "That the policy of developing a reserve fund from savings in the management of the Association be continued. That steps be taken to give prizes and scholarships, both undergraduate and grad-



uate, to the students of the medical school to indicate the interest of the Association in medical education."

The amendment was simply in the second sentence: "That, *when deemed feasible*, steps be taken to give prizes and scholarships."

PRESIDENT SOGGE: You have heard the amendment. What do you wish to do with it? It was moved and seconded that the recommendation be so amended. All in favor of the amendment say "aye"; contrary. The "ayes" have it. Now the original motion.

DR. COVENTRY: Who deems it feasible?

DR. LOCKEN: Who made the amendment? Let him explain what he had in mind.

PRESIDENT SOGGE: Dr. Savage made the amendment.

DR. SAVAGE: This carries with it the fact that the Council is the only body with power to spend that money, unless it could be spent by orders of the House of Delegates. So this amendment means when the Council deems it feasible. It does not make it quite as mandatory as it reads at present.

PRESIDENT SOGGE: We are on the original motion that we accept this recommendation. Is there any further discussion? All in favor of that signify by saying "aye"; contrary. The motion is carried.

DR. LOCKEN: "9. That the medical journal MINNESOTA MEDICINE continue its present policy of serving as an organ for scientific articles and association activities. The subject of economics should be left to the Editorial Committee."

PRESIDENT SOGGE: You have heard this recommendation.

DR. BRAASCH: I think that last conclusion is unfortunate in one way. While we are all proud of Minnesota Medicine and we are proud of the scientific standards they have maintained, we have a medical journal which is second to none, nevertheless, I think many of the members of the Association and I am sure most of the Delegates here are interested in subjects other than scientific medicine. I refer particularly to the subject of medical economics. There seems to be some confusion in regard to that. Medical economics does not necessarily mean financial aggrandizement as a recent editorial in Minnesota Medicine would suggest. It refers to a broader aspect, namely state medicine, insurance, medical insurance, contract practice. Many sociological changes in the practice of medicine are creeping in and developing rapidly. The only way the medical profession can insure its present enviable status is by concerted action in solving these intelligent questions. How can we solve these questions until we know about them? The only medium we have at our command is our medical journal. I think the pages ought to be open to the subject of medical economics and we ought to encourage, in fact we ought to pass a resolution, that the Board of Editors develop this to a greater extent. I believe as the resolution reads it would not do that. I, therefore, would like to amend the resolution as follows: It is the opinion of the House of Delegates that we commend the Board of Editors in their present policy toward the financial development of the Journal, that the pages be open to

even a greater extent to the discussion and intelligent information concerning medical economics.

The motion was regularly seconded.

DR. N. O. PEARCE (Minneapolis): It seems to me the question of medical economics is one that should have more attention in the Journal. It should have more attention from the State Association. I am sorry more of you were not here last night when we presented statistics on the present situation in medical practice. I think it is very important that the State Medical Association at this time should set up an Economics Committee, a committee which will make a study of medical practice, medical conditions in the state, make an analysis of what the doctors in the state are earning and what they are going to have to compete with in the future.

There is a committee in existence known as the Committee of Fifty which was supported by funds from somewhere, I don't know where, possibly insurance companies. Anyway, this committee of fifty or sixty men, most of which are doctors but only a few representing organized medicine, is making a study of the high cost of medical care. They are not making this study from the standpoint of the earnings of the physician, particularly, but with the idea of presenting facts which are concerned with the high cost to the public for care when they are sick. We don't know what the final recommendation of this committee will be. They are not a practicing medical group. There are a great many doctors on that committee. Many of them are teachers or sociologists, and we have representation from our American Medical Association, not a large representation. I think Dr. West and others are really concerned with what recommendations may come out of this committee. Certainly, as has been said so many times, just around the corner there is a scheme, there is a plan for some sort of compulsory health insurance. This is a world-wide movement. It has the endorsement of various world-wide organizations. It has taken place and has become established in many of the leading countries of the world.

It seems to me that this Association here in Minnesota, regardless of what the American Medical Association is doing, regardless of what anyone else is doing, should prepare among ourselves for a close analysis of the report of the Committee of Fifty and all other conditions that have to do with the practice of medicine from an economic standpoint. We should have a committee with enough funds appropriated by the Council for the necessary clerical help to gather together all of the information. We should be making our own studies of these various types of panel medicine that are going on in European countries, so we may be prepared in the next year or two, when a move is on foot, to meet that move in an intelligent manner.

I don't know whether it would be appropriate to have another amendment asking for the appointment of such a committee. If it is, I should like to make such a motion.

DR. LOCKEN: The suggestion we made here was



made because we first obtained the sentiment of the Editorial Committee. We found in preparing this report that it was very necessary to guide our suggestions carefully, because we found that the Council, the Legislative Committee and the Public Health Committee were rather sensitive to anything that might be inferred as a question of criticism of their present policies. So purely as a matter of courtesy to the Editorial Committee of Minnesota Medicine, which we feel has been doing a very fine piece of work, knowing their reaction, we felt we should leave that to their judgment rather than ask them to change their methods. I think in the manner of expression of the view of Dr. Braasch and Dr. Pearce, it would be a very fine thing if we carry out both of those suggestions and have such a committee.

PRESIDENT SOGGE: Is there any objection to Dr. Pearce's amendment? I will entertain such an amendment.

DR. PEARCE: I move, Mr. President, that the House of Delegates authorize the Council of the State Medical Association to appoint a committee to be known as the Economics Committee, composed of five members, this committee to make a study of economic conditions (I won't describe it further than that) and that the Council be authorized to appropriate a reasonable sum of money for clerical and other help necessary to carry out the work of the committee.

PRESIDENT SOGGE: Dr. Braasch, do you accept that amendment?

DR. BRAASCH: I think that motion is out of order. I made an amendment to the motion for the adoption of this resolution.

PRESIDENT SOGGE: We thought of getting it into one motion.

DR. BRAASCH: I don't see how you can do that. This is a committee that has to do with medical economics, and I am making an amendment to the resolution.

PRESIDENT SOGGE: I think the point is well taken. Let us have the amendment. Dr. Braasch, will you state it again?

DR. BRAASCH: What was the last half of your resolution?

DR. LOCKEN: "The subject of economics should be left to the Editorial Committee."

DR. BRAASCH: I move that it be amended to read: they be requested to open the pages of the Journal even more than they have in the past to the discussion and to the publication of articles dealing with medical economics.

PRESIDENT SOGGE: That amendment was seconded. Is there any discussion? All in favor signify by saying "aye"; contrary. The motion is carried.

Let us consider Dr. Pearce's motion that a committee be appointed by the Council, known as the Economics Committee, and that the Council should be empowered to appropriate enough money for clerical work. Is there a second?

The motion was regularly seconded.

PRESIDENT SOGGE: Is there any discussion? All in favor signify by saying "aye"; contrary. The motion is carried.

DR. WRIGHT: I should like to rise to a point of information. There has been a good deal of discussion about the House of Delegates appropriating money. I would like to know whether the House of Delegates has any right to appropriate a cent or not, without consent of the Council. The reason I ask that is this: The Trustees of the American Medical Association are the only ones who can appropriate money in the American Medical Association. The House of Delegates can't appropriate a cent without the consent of the Trustees. A bank can't appropriate money without the consent of the board of directors. The Council is our board of directors. Therefore, under our articles of incorporation, I don't believe we can possibly legally appropriate funds without the consent of the Council. I should like to know if there has been a legal question on that point.

DR. COVENTRY: I would like to ask the speaker if the House has appropriated money. This motion was that the Council have the power to do it.

DR. WRIGHT: I am not questioning that. I think it should be understood that the House of Delegates have no power to appropriate funds without the permission and consent of the Council.

PRESIDENT SOGGE: We probably are exceeding our power to a certain extent, but what we wanted to know is if the House of Delegates approve the action if the Council so does.

DR. LOCKEN: "10. That the question of combining the offices of Secretary and Treasurer be decided on the recommendation of the Council."

It is understood that if that change is made it is necessary to have an amendment to our Constitution.

PRESIDENT SOGGE: Do I hear a motion on that?

Upon motion regularly made and seconded, the recommendation was adopted.

DR. LOCKEN: "11. That the present group of attorneys of the Association be retained."

DR. SCOFIELD: I move the adoption.

DR. COVENTRY: The present group is Oppenheimer, Dickson, Hodgson Brown and Donnelly. It may not be the policy of the Councilors to employ these people. I don't know personally whether we should act upon such a resolution at this time. We may have some good reason in the Council why we want to change this. If the House of Delegates order us to do so, we are rather up against it. There may be good reason why we would want to change.

PRESIDENT SOGGE: There is a motion that we accept this recommendation. You can vote it down or accept it as you want. Is there any further discussion?

DR. M. W. SMITH (Red Wing): Is that a recommendation? The Councilors can do as they please.

DR. COVENTRY: The Council does not like to do things against the wishes of the House of Delegates.

DR. McDOWELL: It seems to me that if we are going to have a Council of intelligent men and they are going to run this business for us, we ought to let

them do much as the board of directors in a bank would do. We ought to give them a little power to change the attorneys if they want to. I think we ought to vote that down.

DR. LOCKEN: That was in the report merely because certain members of the Council asked the Committee, in the first place, to consider that recommendation. It is perfectly satisfactory to us to have it removed. We only have it in the report because we were asked to consider it.

DR. MAGNEY: How are the attorneys paid, on the basis of work they do?

PRESIDENT SOGGE: Yes, the work they do.

DR. MAGNEY: Instead of specifying that we retain the present group of attorneys, say that we have attorneys representing us.

PRESIDENT SOGGE: You have heard the motion. Is there any further discussion?

DR. SMITH: I move it be laid on the table.

The motion was regularly seconded.

PRESIDENT SOGGE: All in favor of the motion to lay on the table say "aye"; contrary. The motion is carried.

I feel that this House of Delegates ought to give this Committee a vote of thanks for all the work they have done. They have surely worked well, and they have studied the questions. I feel we should incorporate in the record a vote of thanks to the Committee.

DR. O. J. HAGEN (Moorhead). I so move.

The motion was regularly seconded, was put to a vote and carried.

PRESIDENT SOGGE: Election of officers. Who do you want for President for the ensuing year?

DR. W. C. CARROLL (St. Paul): I think there are very few societies in the country that can boast of so many prominent men as the Minnesota State Medical Association. Among them we have one of international reputation, a prolific writer in his chosen field. He has been president of the county society, the Southern Minnesota Medical Society, and chairman of his section in the American Medical Association. He has been a Delegate here on numerous occasions and is at present on the Council. I am sure that the mention of his name will be sufficient to place him in the office which has held so many prominent men.

I nominate Dr. Melvin S. Henderson of Rochester. (Applause.)

PRESIDENT SOGGE: Are there any further nominations?

DR. A. G. SCHULZE (St. Paul): I move that the nominations be closed and that the Secretary cast the unanimous ballot of this House of Delegates for Dr. Henderson of Rochester as our President-Elect.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY MEYERDING: The Secretary hereby casts the unanimous vote of the House of Delegates for Dr. Melvin S. Henderson as President for the ensuing year.

PRESIDENT SOGGE: Who do you want for First Vice President?

DR. PEARCE: I would like to nominate Dr. Bert Adams of Hibbing.

The nomination was regularly seconded.

PRESIDENT SOGGE: Are there any other nominations?

DR. COVENTRY: I move that the nominations be closed and that the Secretary be instructed to cast a ballot for Dr. Adams.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY MEYERDING: The Secretary hereby casts the unanimous vote of the House of Delegates for Dr. Adams as First Vice President.

PRESIDENT SOGGE: Second Vice President.

DR. A. W. ADSON (Rochester): I should like to nominate Dr. A. E. Hedback, Minneapolis, who is General Chairman of the Committee on Scientific Assembly as Second Vice President.

The motion was regularly seconded.

PRESIDENT SOGGE: Are there any other nominations?

DR. ADSON: I move that the nominations be closed and the Secretary be instructed to cast the ballot.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY MEYERDING: I hereby cast the unanimous vote of the House of Delegates for Dr. Hedback as Second Vice President.

PRESIDENT SOGGE: What about the Secretary?

DR. PEARCE: I move that the President cast the ballot for the present incumbent, Dr. Meyerding.

The motion was regularly seconded, was put to a vote and carried.

PRESIDENT SOGGE: The President casts the ballot for Dr. Meyerding as Secretary for the ensuing year.

Who do you want for Treasurer?

DR. W. A. FANSLER (Minneapolis): We have a man that I think would make a good Treasurer. He has been on the Council for a number of years. He is familiar with the workings of the organization. I would like to nominate Dr. W. H. Condit, Minneapolis.

The nomination was regularly seconded.

Upon motion regularly made and seconded, the nominations were closed and the Secretary was instructed to cast the ballot for Dr. Condit.

PRESIDENT SOGGE: We will instruct the Secretary to cast the ballot.

SECRETARY MEYERDING: The Secretary casts the unanimous ballot of the House of Delegates for Dr. Condit as Treasurer for the ensuing year.

We want to announce that this is the largest House of Delegates meeting. Our records show there are 59 Delegates present out of 62. There are only three societies not represented. That is the largest we have ever had.

The total registration at this time is a little over 550, and we expect that it will be over 900 at the close of this meeting.

PRESIDENT SOGGE: Councilors. Dr. Henderson is now President-Elect. We will have to have a Councilor from the First District.

DR. ADSON: The Rochester delegation would like to put in the name of Dr. H. Z. Giffin as candidate for the Council for the ensuing year.

PRESIDENT SOGGE: Are there any further nominations from the First District?

DR. BRAASCH: I move the nominations be closed and the Secretary cast the ballot.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY MEYERDING: I hereby cast the unanimous ballot of the House of Delegates for Dr. H. Z. Giffin as Councilor for the First District.

PRESIDENT SOGGE: Third District. Dr. Workman is the present Councilor.

DR. BOLEYN: I nominate Dr. Workman.

Upon motion regularly made and seconded, nominations were closed and the Secretary was instructed to cast the ballot.

SECRETARY MEYERDING: I hereby cast the unanimous ballot of the House of Delegates for Dr. Workman as Councilor for the Third District.

PRESIDENT SOGGE: The next is the Fifth District. Dr. Savage is the present Councilor.

DR. BOLEYN: I nominate Dr. Savage as Councilor for the Fifth District.

DR. BRAASCH: I take pleasure in seconding that nomination.

PRESIDENT SOGGE: Are there any further nominations?

Upon motion regularly made and seconded, nominations were closed and the Secretary was instructed to cast the ballot.

SECRETARY MEYERDING: I hereby cast the unanimous ballot of the House of Delegates for Dr. Savage as Councilor for the Fifth District.

PRESIDENT SOGGE: Seventh District. W. W. Will, Bertha.

DR. PEARCE: I nominate Dr. Will.

DR. McDOWELL: I move the nominations be closed and the Secretary cast the ballot.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY MEYERDING: I hereby cast the unanimous ballot of the House of Delegates for Dr. Will as Councilor for the Seventh District.

PRESIDENT SOGGE: Delegates to the American Medical Association. The Council recommended the nomination of Dr. C. B. Wright as Delegate and Dr. J. T. Christison as Alternate. Are there any other nominations?

DR. SCOFIELD: I move that the nominations of the Council be accepted and the Secretary cast the ballot.

The motion was regularly seconded, was put to a vote and carried.

SECRETARY MEYERDING: The Secretary casts the unanimous ballot for Dr. C. B. Wright as Delegate and Dr. J. T. Christison as Alternate to the American Medicine Association.

PRESIDENT SOGGE: Meeting place for next year.

DR. CARROLL: I have letters from the Mayor and the Secretary of the St. Paul Association inviting the State Association to meet in St. Paul in 1932.

DR. BRAASCH: I take great pleasure in seconding that invitation. It was the intention of those of us from Rochester to invite this Association to meet there

next year. However, we would defer to the wishes of St. Paul, knowing that they have started their campaign. However, we hope this Association will see fit to come our way in 1933.

PRESIDENT SOGGE: You have heard this invitation to meet in St. Paul next year. Are there any other invitations?

DR. KLAVERNESS: I move it be accepted.

The motion was regularly seconded.

PRESIDENT SOGGE: You have heard the motion. All in favor of meeting in St. Paul next year say "aye"; contrary. The motion is carried.

SECRETARY MEYERDING: Last year the House of Delegates passed a resolution, or at least it was its opinion that we do not have our House of Delegates session during the scientific meetings. We have tried to do this. We had the House of Delegates meet last night. There has been criticism on the meeting. We would like to do what the Delegates want. If you will discuss that a minute, we would appreciate it very much. What time of the day do you want to meet and at what hour? Would you like to meet during the scientific sessions or go back to the old way, meeting on Monday afternoon at one-thirty or two o'clock? We had medical economics in the evenings, and the next day the scientific program commenced. If you will make some expression so we can work upon it, we will appreciate it very much.

DR. ROBBINS: I suggested last year that we meet the day before the scientific meeting so we could finish this session in the afternoon instead of the evening, and cover all of it.

PRESIDENT SOGGE: I will appoint the following committee to present the President-Elect to the House of Delegates: Dr. E. S. Boleyn, Stillwater; Dr. M. S. Nelson, Granite Falls; Dr. S. A. Slater, Worthington.

Let us have your expression on the subject brought up by the Secretary.

DR. ADAMS: The meeting last night was ideal. We don't have to break up a whole day. I was able to do some of my work yesterday morning. I don't see how that can be improved upon.

SECRETARY MEYERDING: We wanted to have it on Sunday but somebody said that wasn't good form, somebody might criticize us for working on Sunday. We discontinued the idea of Sunday, and Monday night seemed the best plan under the circumstances.

DR. WRIGHT: Certainly from the standpoint of attendance and interest, I think this has been the most interesting meeting we have had in the House of Delegates. I think that matter should be left to the Council. As far as Sunday is concerned, I am not a particularly scrupulous religious adherent or churchgoer, but I feel it is the only day a man has to give to his family, and I feel that to hold a meeting of this kind on Sunday would be a little bit out of step.

The audience rose and applauded as President-Elect Henderson was escorted to the platform.

PRESIDENT-ELECT HENDERSON: Mr. President and Members of the House of Delegates: Needless to say, this is a proud moment for me. I heard rumors that it might happen so I thought I had better get out for

a few minutes and give you a chance to say what you wanted to say about me.

A thing of this kind comes to a man only once in a lifetime, and I wonder whether it means that I have passed the noon of my surgical career and am tripping down the other side. I know that while I am very proud, I am also very humble. I realize that it is a tribute not only to myself but to my good friends with whom I have worked for many years, and I take pride in the fact that I am to shed a little light on them in a small way.

The State Association, of course, has grown. Its activities have varied, and the traditions and all that are back of the Association are wonderful. Minnesota has been in the vanguard of progress in medical work and scientific work in the United States in the past, and now they are holding that position, advancing along the lines of economic medicine.

I don't want to take any more of your time. There is much I could say and much I would like to say. All that I can say is that I am very proud and will do all I can to fulfill this high office and be of service. (Applause.)

PRESIDENT SOGGE: Let us go back to where we were, the time of holding the meeting next year. Let us have a motion.

DR. B. I. SALITERMAN (Janesville): I move that the time be left to the Council.

The motion was regularly seconded, was put to a vote and carried.

PRESIDENT SOGGE: We have some resolutions.

We want to offer a resolution of thanks to the Hennepin County Medical Society for its fine work in entertaining the Association, to the Nicollet Hotel and its management, to the Minneapolis Civic and Commerce Association, to the Minneapolis Journal, Tribune and Star.

PRESIDENT SOGGE: You have heard these resolutions.

DR. ADSON: I move they be adopted and that a committee be appointed to draft the resolutions.

The motion was regularly seconded, was put to a vote and carried.

PRESIDENT SOGGE: I will appoint as the Resolutions Committee: O. J. Hagen, Chairman, Moorhead; W. A. Piper, Mountain Lake; C. L. Scofield, Benson.

I will ask Dr. Braasch and Dr. Boyer to present the newly elected officers to the Association tomorrow morning at ten o'clock.

I will have to ask your pardon for having rushed the business so fast but I felt it was absolutely necessary because we wanted to get to the clinics.

Is there any new business, or anything anybody wants to bring before the body?

I want to say I feel very grateful to you for the splendid way in which you have transacted business here this afternoon. A motion to adjourn is in order.

Upon motion regularly made and seconded the meeting adjourned at one-fifteen o'clock.

### SCIENTIFIC PROGRAM

The scientific program was presented as published in the April, 1931, number of MINNESOTA MEDICINE with the following changes:

Dr. Arthur E. Smith, Minneapolis, presented a paper Wednesday morning entitled "Impairment of Vision Following Head Injuries."

Dr. C. A. Neumann was not present to present his paper on "Fractures of the Wrist."

Wednesday afternoon Dr. S. A. Slater, Worthington, made the announcement that the prize offered by the Southern Minnesota Medical Association for the best scientific exhibit displayed at the State meeting had been awarded to Dr. W. P. Herbst, Minneapolis, and honorable mention given to Dr. R. K. Ghormley, Rochester. The medal was formally presented August 24, 1931 at the annual meeting of the Southern Minnesota Medical Association.

The papers presented will for the most part be published in subsequent issues of MINNESOTA MEDICINE.